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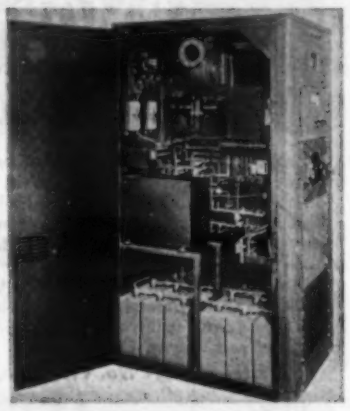
NEW EQUIPMENT DIGEST

EQUIPMENT • IMPROVEMENTS • PROCESSES • MATERIALS • METHODS • APPLICATIONS • LITERATURE

Vol. 8 November, 1943 No. 11

CAPACITOR WELD UNIT



Incorporating features found only in larger three phase machines, Model 135 single phase Revers-O-Charge capacitor weld unit is designed to fit need for smaller welding control. Variable capacity of from 120 to 1440 microfarads is obtained through use of twelve condensers. Reversed counter voltage of discharging welding transformer is used to partially recharge condenser bank after each weld. Line surge at beginning of each charge is considerably reduced.

Electronic means is used to discharge and recharge condenser bank, without moving parts between condensers and transformer. Charging voltage is maintained to within plus or minus 2 per cent. Additional protection can be provided by use of under and over voltage relays. These prevent discharge until exact charging voltage is reached. Discharge is likewise prevented if overcharge of condensers occurs.

Maximum operator safety is provided by shorting bar which discharges condenser bank when power is shut off, service doors opened or when changing condenser capacity. Mushroom head starting button prevents accidental operation of unit. Made by **Weltronic Co.**, 20735 Grand River Ave., **Detroit 19, Mich.**

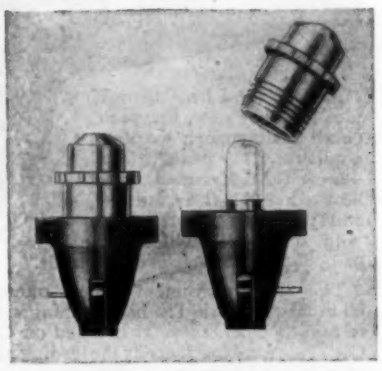
▲ Mention Item NED-5750 when writing ▲

PLASTIC GROMMETS

Assembly operations are claimed to be speeded up radically through introduction of this line of phenolic plastic insulating grommets. Available in four standardized sizes, these devices were developed especially for radio, motor and electronic applications. Holes are concentric and corners are chamfered to prevent wire chafing. Threads are clean and lubricated. Matte finish is used to provide easy gripping and conserve assembly time. List prices range from 7 to 10 cents each in lots of 10,000 or more. Samples and other data available from **Creative Plastics Corp.**, 970 Kent Ave., Brooklyn 5, N. Y.

▲ Mention Item NED-5751 when writing ▲

INDICATOR LAMP

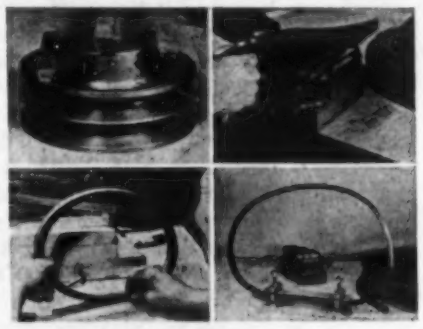


Supplied ready for mounting, this small molded plastic indicator lamp has lock-on color cap which cannot be shaken loose and will not "freeze" to base. As many as five circuits can be identified on one panel by use of five different color caps; amber, red, white, green and blue.

Base is mounted directly to back of instrument panel and color cap is screwed into base through panel. Coil spring supplies constant pressure to base of lamp bulb to maintain good electrical contact. Lamp takes 6 to 8 volt bulbs. Applications include radio transmitters, and any other equipment or control device where glow lamp is needed to show that device or circuit is on or off. Made by Specialty Div., General Electric Electronics Dept., **General Electric Co.**, Schenectady, N. Y.

▲ Mention Item NED-5752 when writing ▲

LEATHER V-BELTS



Affording high efficiency of power transmission, leather V-belts are constructed with flat leather surfaces firmly cemented to sides of leather core. Flat full grain leather walls makes possible use of slack-running belts, resulting in long belt life and minimum of wear on bearings.

Belting is furnished in rolled form in three standard sizes. Special tools are available for making endless belts in stock room for any application. Illustration shows, top left, three belt sizes; top right, miter box which permits clean-cut feather bevel for joints; lower left, applying cement to joint, and lower right, clamping belts until cement sets. Several lengths may be spliced together to make belt of any required length. Made by **Chas. A. Schieren Co.**, 35 Ferry St., New York 7, N. Y.

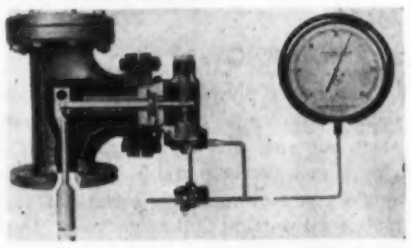
▲ Mention Item NED-5753 when writing ▲

CONVEYOR BELTS

Comparable in all respects to high quality rubber conveyor belts, according to manufacturer, line of super-quality synthetic rubber conveyor belt is designated as Style SS. Flex life, ageing and resistance to cutting and abrasion are similar to those of rubber belting and resistance to oil and high temperatures are additional advantages. This type of belting is adaptable to mining operations, including handling of coal, metals, gravel, aggregate and similar materials. Made by **The Goodyear Tire & Rubber Co.**, 1144 E. Market St., Akron 6, O.

▲ Mention Item NED-5754 when writing ▲

LIQUID LEVEL GAGE



Operating on pneumatic "null" balance principle, Nullmatic liquid level gage is suitable for working pressures up to 300 pounds per square inch. Fast operation is obtained and errors caused by transmission line leaks are minimized. Transmitters for use on sub-zero temperatures have balancing mechanism removed from frosting zone and are compensated for ambient temperature changes.

Equipment consists of transmitter with booster pilot valve and indicating, recording or controlling receiver for installation at remote point. Transmitter may be furnished with floats over 60 feet long for installation on pressure tanks or on large tanks of spherical construction. Transmitters are also available mounted in float chambers for control of liquid level. Equipment is adaptable for hazardous or corrosive liquids because of packless construction and ability to confine leakage within safety pressure housing.

Transmitter operates on principle of force change caused by buoyancy of liquid rather than float following changing level. Made by **Moore Products Co.**, H & Lycoming Sts., Philadelphia 24, Pa.

▲ Mention Item NED-5755 when writing ▲

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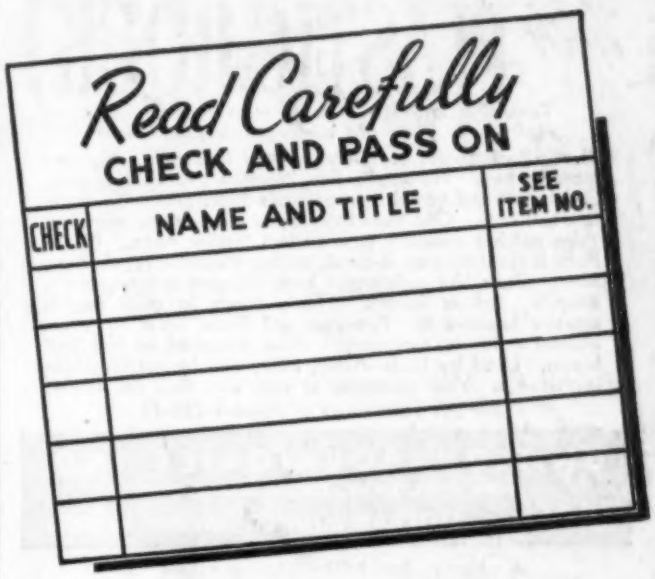


SURFACE ROUGHNESS METER

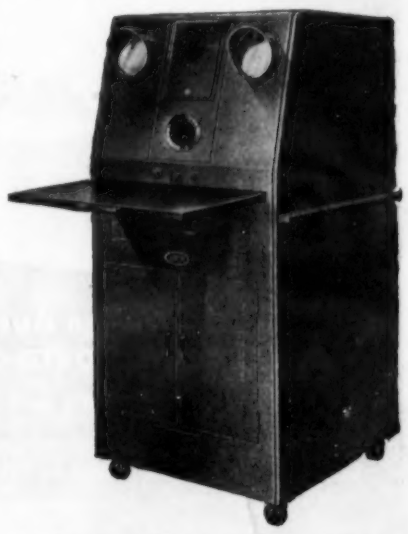
Providing accurate measurements of surface roughness by direct dial readings, type Q Profilometer is light in weight and compact. It is portable and can be used conveniently wherever it is needed. Storage compartments in case are designed for accommodating various accessories, including type M tracer, Flexarm, glass specimen and type I or J tracer. Power and tracer cables are stored in compartment in front of panel.

Meter panel set at 45-degree angle permits easy reading of meter. Where it was formerly necessary for operator to stand above previous models to take reading, this meter can be used while operator is seated. This feature is important where meters are being used in production checking of surface finishes. Tracers are all adjusted to same calibration number so that adjustment of amplifier in field is no longer required. This makes possible fewer instrument controls and eliminates possibility of calibration errors on part of operator. Meter is designed for use on 115 or 230-volt, 50 or 60-cycle power lines. Made by **Physicists Research Co.**, 343 South Main St., Ann Arbor, Mich.

▲ Mention Item NED-5756 when writing ▲

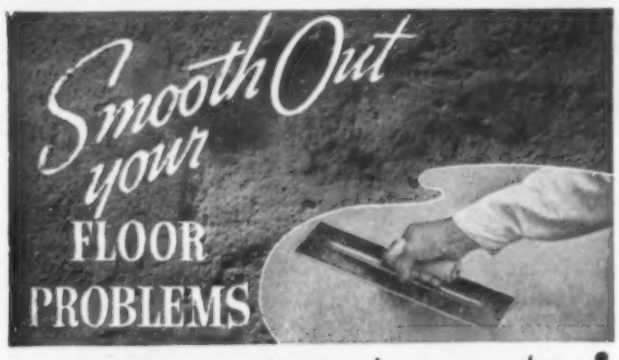
METALLURGICAL CHECKER

Checking and sorting of metals for depth of case hardening and other metallurgical factors are accomplished electronically by means of this Cyclograph. Operation is based upon cathode ray instrument which provides visual method of checking and comparing known and unknown metallurgical products, as well as for automatic sorting.



By use of several frequencies in either sequence or simultaneously, Cyclograph checks known and unknown metal pieces according to such factors as case depth, depth of carburization, amount of cold working, brittleness, hardness gradients and structure. In sorting operations, instrument sorts according to analysis, heat-treatment, structure, size, wall thickness, thickness of plating or cladding, and magnetic or non-magnetic properties, provided all other variables are reasonably constant. Made by **Allen B. Du Mont Laboratories, Inc.**, 2 Main Ave., Passaic, N. J.

▲ Mention Item NED-5757 when writing ▲



with PLASTIC ROCK!

Trowel a smooth, tough, plastic surfacing right over your old concrete or wood floor.

Plastic Rock comes complete, packed in barrels. Nothing more to buy. No application "formula" to confuse you. Simply mix and trowel right over old floor. Average depth one-half inch. Old floor Saturday is a new floor Monday. Also patches concrete to a perfect feather edge. Plastic Rock is absolutely spark-proof, skid-safe wet or dry, dustless, silent. Feels like cork under foot. Cannot splinter, crack, crumble, curl or loosen. Heavy loads in steel wheels actually improve it. Five-year old floors show no wear. Natural color is dark gray. Also furnished in red and brown. Used by U. S. Army, Navy and largest industries in America. Your contractor or your own crew can apply.

Ask for your copy of Report 220-11

UNITED LABORATORIES, INC.
16801 EUCLID AVE., CLEVELAND 12, OHIO
In Canada — STORRAR MFG. CO., Weston, Ontario

▲ Mention Item NED-5758 when writing ▲

CHAMPION STEEL RACKS

The Rack That Will Hold All You Can Pile On It!

Also Furnished for Use Against the Wall

Save TIME • STEPS • MONEY

By keeping your bar stock, shafting and pipe out of the way and off the floor. Furnished in 6 different arm lengths and 4 different spacings between arms. Height 5 feet and weight, 250 lbs.

We also furnish parts from which to build an *adjustable* rack for holding shelves used in storing patterns, jigs, fixtures, etc. This equipment with arms alone can be used for pipe, bar stock, etc.

Write for Complete Details and Prices

THE WESTERN TOOL & MANUFACTURING CO.
SPRINGFIELD, OHIO

▲ Mention Item NED-5759 when writing ▲

▲ Mention Item NED-5760 when writing ▲

SQUIRREL-CAGE MOTOR

Featuring centrifugally-cast Copperspun Rotor, this Protectioneered continuous duty, polyphase squirrel-cage induction motor is designed for use in all types of industries. Construction is such that motor is fully protected against flying chips, falling particles, dripping liquids and other motor hazards. Ball bearings are sealed in cartridge housings and cross-flow ventilation results in uniform cooling.

One piece cast frame has rib sections to give added strength. Where space is limited, conduit can be brought up between motor feet to tapped hole in frame and conduit box cover assembled flush with frame. When conventional conduit mounting is used, box can be installed in any one of four positions. Motor which is available in wide range of sizes is rated at 40 degrees Cent. temperature rise and will carry 115 per cent load continuously without heating. Made by Fairbanks, Morse & Co., Dept. J60 600 South Michigan Ave., Chicago 5, Ill.

▲ Mention Item NED-5761 when writing ▲

BABBITTING FURNACE

Designed for melting and casting babbitt to line or reline bearings, Big Chief Babbitter furnace has indicating temperature control which regulates heat. Furnace has Duofold insulation. Heat is blanketed over surface of metal by toothed ring. Built-in pressure relief prevents pot from cracking. Motorized agitator keeps molten metal mixed to uniformity.

Babbitt flows through Jordan internal valve at bottom of pot into pouring trough that leads to bearing, making cast in one even pour. This is especially desirable where speed and precision, as well as economy, are essential. Furnace is designed for heating by manufactured, natural or mixed gas. Capacities are approximately 1200, 2400, 3200 and 4800 pounds of lead-base babbitt and about 25 per cent less when high tin-base babbitt is used. Made by United American Metals Corp., Corner Calyer & Diamond Sts., Brooklyn, N. Y.

▲ Mention Item NED-5762 when writing ▲

DO YOU KNOW?

Tacking of plywood, plastics and other industrial materials with "radio nails" is performed almost instantaneously with electronic spot gluer. Though still in experimental stage, device is completely portable and resembles short barreled automatic pistol or narrow electric flat iron. Output is approximately 50 watts at 200 megacycles. Developed by Radio Corp. of America, Camden, N. J.

▲ Mention Item NED-5763 when writing ▲

SYNTRON
ELECTRIC HAMMERS

Will do those "Nuisance" Jobs in Your Plant

Quickly - Easily - Economically

Drilling in concrete and masonry to hang shafting, anchor, machinery, etc.

Scaling crown sheets, condenser tubes in boiler maintenance; caulking pipe, etc.

Redressing mill stones, cleaning beater rolls and Jordan bars, etc.

Cutting concrete and masonry for waterproofing, channeling for conduit, etc.

SYNTRON CO., 405 Lexington Ave., Homer City, Pa.

▲ Mention Item NED-5764 when writing ▲

ARMOR-PLATE *saves* LIFE AND LIMB

Another "ULI" sensation! Insurance against falls and injury—*wherever feet may slip.* Just spray or brush Armor-Plate on dangerous surfaces, and save limbs and lives. Abrasive texture like No. 3/0 emery cloth. For metal floor plates, stair treads, ramps, corridors, airplane wing "steps," ship decks, gangplanks, truck running boards, stepladders—wherever wet, oily or slippery surfaces hamper production and threaten life. Rust-inhibiting. Sticks to wood, metal, concrete, slate, and glass. Cost applied, less than 1c per sq. ft. Jobs three years old show no wear. Choice of gray, red, brown or green.

FREE—Report No. 419-K, applied sample attached

UNITED LABORATORIES, INC.
16801 EUCLID AVE., CLEVELAND 12, OHIO
In Canada — STORRAR MFG. CO., Weston, Ontario

▲ Mention Item NED-5765 when writing ▲

LUBRI-TASGON

FOR COMPLETE AND THOROUGH LUBRICATION

● Lubri-Tasgon is different from ordinary lubricating oils. It is a combination of highly refined oil and active chemical agents. By its unique property of colloidal penetration it releases surface tension—spreads rapidly over chafing surfaces—penetrates the tiniest cracks, the tightest joints. Lubri-Tasgon is longer lasting too, because of its unusual non-oxidizing properties. It dissolves rust, carbon, grit and gummy oil. Try it! You'll see!

Write for booklet, or better yet, order a sample can from your Mill Supply house or direct from

SAMUEL CABOT, INC.
1422 Oliver Bldg. • Boston, Mass.

▲ Mention Item NED-5766 when writing ▲

Seeing and hearing this film will give new, inexperienced maintenance workers a quicker grasp of their jobs—a clearer understanding of how to handle valves, fittings, and piping accessories. To "old timers" it will recall many forgotten "tricks of the trade."

This "Piping Pointers" film is offered to all industry as an aid to better piping service in today's emergency. It is based on Crane Co.'s 88-year experience as the leading maker of valves and fittings.

CONSULT YOUR LOCAL CRANE BRANCH

When the film is ready, your local Crane Branch will gladly arrange a convenient showing in your plant. An early call will reserve your place on the showing schedule. CRANE CO., General Offices: 836 S. Michigan Ave., Chicago 5, Ill.

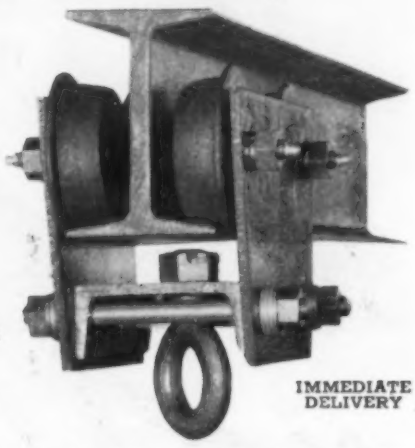
CRANE VALVES

▲ Mention Item NED-5767 when writing ▲

GRAY TROLLEYS

are SAFE and EFFICIENT with CLOSE HEADROOM

EQUIPPED WITH GRAY Thoroughly Sealed Ball Bearing Trolley Wheels

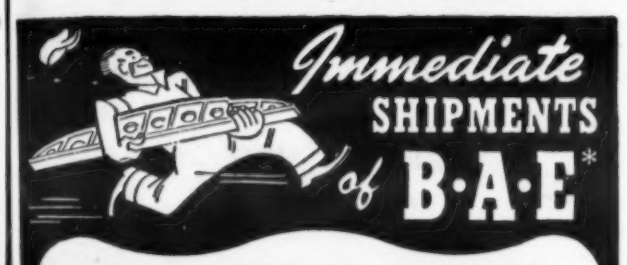


IMMEDIATE DELIVERY

Long trouble-free service is what you get with every Gray trolley equipped with new type. Gray ball bearing trolley wheels which take maximum radial and thrust loads. Gray trolleys are easily transferred through the shop and can be furnished in 250 lb. to 2 ton standard capacity sizes adjustable to suit various size I-beams. Write for illustrated bulletin describing features of Gray trolleys and trolley wheels.

GRAY HUB COMPANY
Incorporated 1922
7265-17403 GABLE AVENUE DETROIT 12, MICHIGAN

▲ Mention Item NED-5768 when writing ▲



***BARCO ACCURACY EQUIPMENT**

ANGLE IRONS. Solid enough to serve as base for jigs and fixtures; no welding.

STRAIGHT EDGES. Also heat-treated and hand-scraped, making possible extreme accuracy.

SURFACE PLATES. Exclusive octagon ribbing; plates ⅓ and ½ heavier, longer service.

BETTER SHOOT THAT ORDER IN NOW!

All THE ADVANTAGES OF *MEEHANITE*

No soft spots, crystalline weakness or internal strain. Uniform structure, great rigidity. Heat- and corrosion-resistant. No galling or seizing.

Hand-scraped to .0002" flatness.

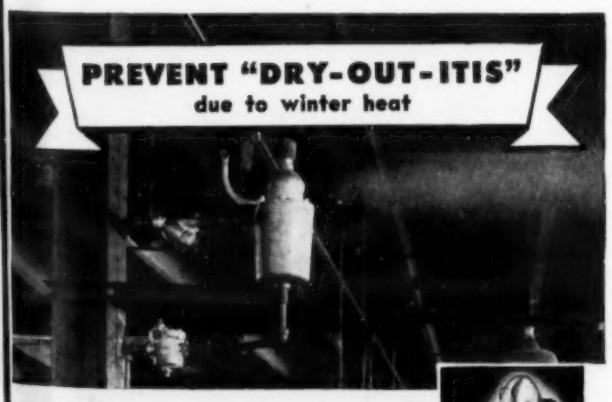
Get a copy of our Bulletin "N-11"

BARCO SCRAPING CO., 1975 East 65th St., Cleveland 3

BARCO MEEHANITE SURFACE PLATES
SLOTTED ANGLE IRONS — STRAIGHT EDGES

▲ Mention Item NED-5769 when writing ▲

PREVENT "DRY-OUT-ITIS"
due to winter heat



ARMSTRONG HUMIDIFICATION

improves work comfort . . .
controls dust and static . . .
prevents drying out of materials

CHEMICAL PLANTS over the country are ending the dry-air evil at low cost, with Armstrong Unit Humidification. Powder processing and shell loading plants reduce danger of explosion. Other plants use humidification to allay dust, to prevent loss of weight, to prevent curling and drying of paper, to stop leather cracking, etc. Also used in offices to maintain healthful, comfortable working conditions, and to prevent winter colds.

Simple, practical, quiet; connected to steam lines like a unit heater. Fully guaranteed. As low as $100 for 40,000 cu. ft. Ask for literature. ARMSTRONG MACHINE WORKS, 819 Maple St., Three Rivers, Mich.

BY THE MAKERS OF ARMSTRONG STEAM TRAPS

▲ Mention Item NED-5770 when writing ▲

TEMPERATURE CONTROL

Equipped with heavy cast iron base and cast cover, Model VD-3 temperature control switch is vapor and water tight, making it applicable for installation on extremely exposed conditions such as encountered on ship decks. Individual adjusting screws provided with locking devices set temperature at which each switch operates. Main temperature adjustment is outside of case and covered by water-tight cap so that differential between switches is uneffected by change in ambient temperature.

Difference between operating temperatures of any two switches may range from 300 to 800 degrees Fahr. depending upon sensitivity of instrument. Device may be furnished for any temperatures from minus 100 to plus 1400 degrees Fahr. Made by **Burling Instrument Co.**, 253 Springfield Ave., Newark, N. J.

▲ Mention Item NED-5771 when writing ▲

LIGHTING FIXTURES

For the duration of the war Chase line of plastic lighting fixtures will be manufactured by Wakefield to augment standard Commodore units. Illustrated Commander fixtures, as well as Alden units, are individually styled and afford wide range of design in semi-indirect lighting plastic reflectors.

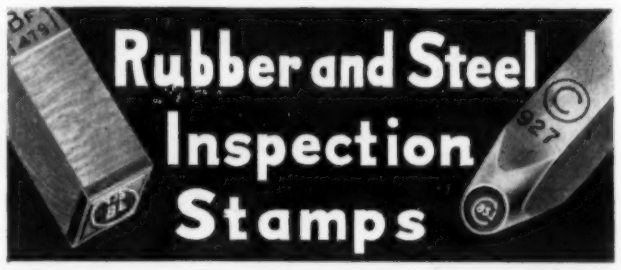
Reflectors are of Plaskon urea formaldehyde plastics which is light in weight, durable and not subject to breakage because of temperature changes. It can be cleaned with hot or cold water, or by wiping with damp cloth. Wattages from 200 to 750 watts and styles include close connected ceiling and semi-rigid suspension types. Made by **The F. W. Wakefield Brass Co.**, Wakefield Park, Vermilion, O.

▲ Mention Item NED-5772 when writing ▲

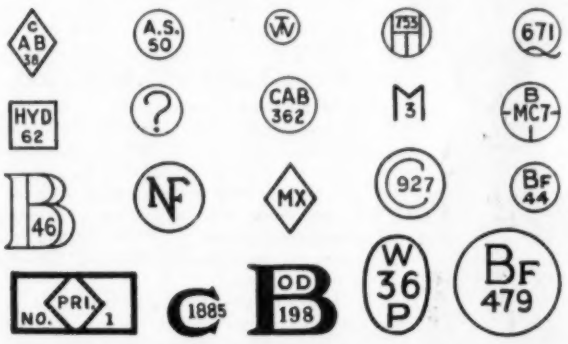
DO YOU KNOW?

New portable magnetic wire recorder, weighing 9 pounds, and combination unit weighing less than 50 pounds, with built-in recording, play-back and instantaneous erasure features are being used in war zones for news coverage. Sixty-six minutes of continuous speech and sound can be recorded magnetically on 11,500 feet of hair-like steel wire on spool no larger than ordinary doughnut. Sound and speech can be "wiped off" wire magnetically and wire reused indefinitely. Developed by General Electric Co., Schenectady, N. Y.

▲ Mention Item NED-5773 when writing ▲



A few of the thousands of various designs, trade marks and symbol style inspection and code marking Rubber and Steel Stamps being manufactured.



Send your orders and inquires for all kinds of Rubber and Steel marking devices. Dependable service guaranteed — a part of every transaction.

A. C. GIBSON CO. INC.
70-71 OAK ST. BUFFALO 5, N. Y.
BOX 387 U. S. A.
Gibson Marking Devices

▲ Mention Item NED-5774 when writing ▲

These handy wall charts will show you in a jiffy, just what belts to order if you know the number on your old one.

Lengths, weights and prices are all listed for both Browning "Gripbelts" and F. H. P. Supercords.

They're free to those who need them. Write for yours today. You'll enjoy the trouble free performance of Browning Belts.

BROWNING MANUFACTURING COMPANY
Incorporated
MAYSVILLE, KENTUCKY

▲ Mention Item NED-5775 when writing ▲

ELECTRONICS
for WAR and PEACE

When the war came, we had the technical skill and manufacturing facilities for providing the high-precision electro-mechanical devices essential to our armed forces . . . Large quantities of ELECTRONIC equipment have been designed and manufactured in our plant, as well as equipment for wire communication and sound recording.

When Victory is won, you can likewise look to Gray for new advancements in electro-mechanical products—and in electronics, which promises to play such an important part in peace-time developments.

An Invitation to MANUFACTURERS and INVENTORS

Have you an idea or invention in electro-mechanics which you think will aid the war effort, or which has peace-time application? We'll be glad to develop it with you on a mutually satisfactory basis.

We are planning to add 5 or 6 products to our post-war line. If you have a product or idea which you believe would fit in with our activities, write our President, Mr. W. E. Ditmars, in complete detail. We will consider any practical arrangement.

GRAY

THE GRAY MANUFACTURING COMPANY
HARTFORD, CONNECTICUT
230 PARK AVE., NEW YORK

Makers of telephone pay stations since 1891

▲ Mention Item NED-5776 when writing ▲

New Allison Collet Chucks speed production—reduce rejects—give full spindle hole capacity on lathes up to 1½" size—no stopping during operation—fits lathe, mill or drill press—needs no keys or wrenches — no push or draw bar attachments — unsurpassed for production

See your distributor or write for literature.

Allison COLLETS
ROUND HEXAGON SQUARE SERRATED
ALLISON TOOL AND ENGINEERING CO., 4031 Whittier Blvd., Los Angeles, Calif.

▲ Mention Item NED-5777 when writing ▲

▲ Mention Item NED-5778 when writing ▲

BECAUSE Logan Conveyors eliminate tiresome bending, lifting and straining, the maximum use of womanpower is made in this plant of a famous drug manufacturer. Are you using conveyors to lighten the work for your women employees? Your nearest Logan engineer can give you expert advice . . *quickly*. Get in touch with him or write Logan Co., Inc., 215 Cabel Street, Louisville, Ky.

Write now for book "THE KEY"

Logan Conveyors

▲ Mention Item NED-5779 when writing ▲

Heat gate houses and other remote rooms ELECTRICALLY

The simple, convenient, and safe way to heat any small isolated spot or room is with one of the various types of

CHROMALOX *Electric* AIR HEATERS

The Type HF heater, in four sizes —1.5 to 4-kw. Other types up to 40-kw., for heating large areas. Chromalox heaters can be supplied with thermostatic control if desired.

As easy to install as an electric light—they eliminate all steam heat piping troubles—

They provide clean, fumeless, warmed air, avoiding the carbon monoxide dangers of flame heat in constricted areas—

They eliminate the hazard of naked flame—

They cost little or no more to operate than other forms of heating—

They are available in permanent or portable types, various sizes for convection or blower operated, capacities from 1 kw. to 40 kw.

Chromalox Type D Air Heater, light, portable, sturdy construction. Equipped with 3-heat switch. Four sizes, 1 to 3 kw.

EDWIN L. WIEGAND COMPANY
7509 Thomas Blvd. Pittsburgh 8, Pa.

▲ Mention Item NED-5780 when writing ▲

FLARING TOOL

Making possible formation of correct double flares on all popular sizes of thin wall steel tubing from 3/16 to ½ inch for S.A.E. flare and inverted flare joints, Multi-Size flaring tool can also be used on copper or aluminum tubing. Tool insures against cracking or splitting of tubing in flaring because it folds back end to make flare with double thick, double strength walls.

Tool can be used right on job and will handle all most widely used sizes of tubing. It is small and convenient to work with. No vise and no hammering are necessary and flaring can be done in very close quarters. Complete tool consists of flaring bar, yoke and five adapters all furnished in metal kit. Made by **The Imperial Brass Mfg. Co.**, 1236 W. Harrison St., Chicago 7, Ill.

▲ Mention Item NED-5781 when writing ▲

HIGH SPEED SHAPER

Designed for high speed, accurate shaping of work requiring fine finish, this Shape-Rite 8-inch precision shaper is readily controlled by operator from one position. Long V-type ramways, precision cut and lapped gears, ground and hand-scraped working surfaces permit operation up to 160 strokes per minute without deflection, backlash or vibration. Machine may be equipped with plain or swivel table, latter graduated in degrees with range up to 180 degrees. Table is easily locked in any required position. Horizontal table-travel is operated by ratchet connected to bull-gear shaft and provides feed rate up to 0.025 inch. Long box-type cross rail assures rigidity of table in all positions. Swivel-base table-vise, graduated to 190 degrees, may be locked in any position. Helical, precision cut gears are mounted on anti-friction bearings. Made by **Sales Service Machine Co.**, 2426 University Ave., St. Paul 4, Minn.

▲ Mention Item NED-5782 when writing ▲

DO YOU KNOW?

Three new industrial incentive films; "The Navy Flies On," "The Life and Death of the Hornet," and "December 7th," have been added to extensive list of films which are available to industrial plants for showing to their employes. Nominal charge of $1 is made to cover cost of handling for each film. Plants wishing to show films should write to Navy Dept., Industrial Incentive Div., 2118 Massachussetts Ave. N. W., Washington 25, D. C.

▲ Mention Item NED-5783 when writing ▲

BEWARE this SABOTEUR!

Scale in boiler tubes is the wasteful saboteur of boiler efficiency that reduces heat transfer. For example, 1/32 of an inch of scale in tubes can reduce evaporation as much as 10%. Don't let this happen in your plant . . .

Be on Guard with AIRETOOL

Airetool Tube Cleaners will quickly and thoroughly do away with scale and other deposits. And there will be less down time . . . Airetool Tube Cleaners do the job faster. This is because of Airetool's unique power seal motor that gives extra speed and power . . . that permits the motor to be loaded down to 50 RPM without stalling.

Airetool Tube Cleaners are made for straight or bent tubes; ½" to 20" I.D. All types of cutter heads, brush heads, drills, blade-type heads and knocker heads are available. Let us know your needs.

WRITE FOR BULLETIN

AIRETOOL MANUFACTURING COMPANY
SHUEY BLDG., SPRINGFIELD, OHIO

▲ Mention Item NED-5784 when writing ▲

SAFE-LINE
WIRE ROPE CLAMPS

Write for details of this—the only PERFECTED wire rope clamp on the market. Used by the Armed Forces and thousands of industries.

NATIONAL PRODUCTION COMPANY
4557 ST. JEAN AVENUE DETROIT 13, MICHIGAN

▲ Mention Item NED-5785 when writing ▲

RUSH DELIVERIES can be made on TURNER STANDARD STEEL *Plug* GAUGES!

Now your rush orders on Turner's standard steel plug gauges can be delivered within a few days—that's how Turner has stepped up their production to meet your demands for faster delivery. And here is how to order them by giving us the following information: 1. Diameter; 2. Length of gauging surfaces; 3. Tolerance or accuracy; 4. Hardened alloy steel or chrome; 5. Number of members—Go, Not Go, Handles; 6. Complete marking instructions.

FAST DELIVERIES ON THESE TOO!

Prompt delivery can be made on rings, snaps, flush pins and built-up gauges too. For the latest delivery dates write us today.

Wire your order today or PHONE DETROIT ELMHURST-6969

TURNER GAUGE GRINDING COMPANY
2640 HILTON ROAD • • • • FERNDALE, MICH.

▲ Mention Item NED-5786 when writing ▲

Scene from film on fabulous Jack and Heintz War Production Plant. They process parts too difficult to clean manually or by any other method with

L&R PRECISION CLEANING EQUIPMENT

as do hundreds of other major war industries and the Army and Navy.

Clean: Instruments, Meters, Gauges, Bearings, Jewels, Crystals, Electronic Tubes, Screw Machine Products, Motor Assemblies, etc.

WRITE for complete, descriptive catalogue material.

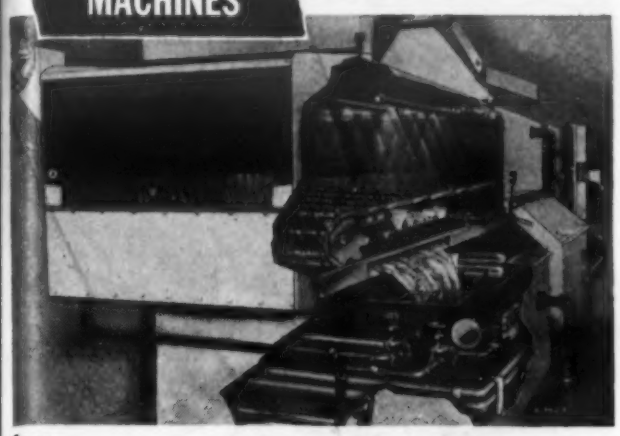
L & R MANUFACTURING COMPANY
577 ELM STREET • ARLINGTON, N. J.

CLEAN • RINSE • POLISH • DRY with L & R, in one complete, self-contained unit

▲ Mention Item NED-5787 when writing ▲

INDUSTRIAL WASHING MACHINES

.. for fast and efficient cleaning of vital parts!



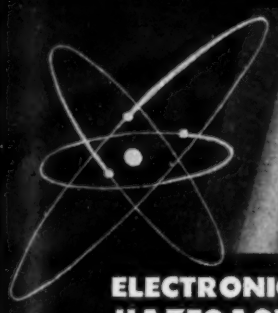
for:
AIRCRAFT & AUTOMOTIVE PARTS, BEARINGS, CAGES, RACES, TUBES DIE CASTINGS, SCREW MACHINE PRODUCTS, ETC.

INDUSTRIAL Washing equipment—extensively used in ordnance plants throughout the country—is facilitating the handling and machining operations in all phases of production. Inspection and testing are speeded and made more thorough; accuracy is increased; economies are effected in time and labor. INDUSTRIAL Washing Machines include those for washing, rinsing, slushing and drying. Descriptive literature on request.

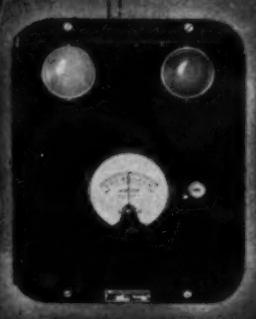
INDUSTRIAL WASHING MACHINE CORPORATION
289-90 BURNET ST., NEW BRUNSWICK, NEW JERSEY

▲ Mention Item NED-5788 when writing ▲

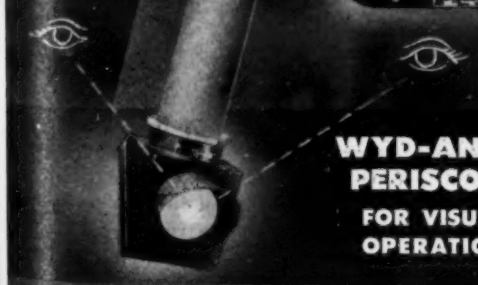
ESS
INDICATORS, CONTROLLERS and RECORDERS for
SMOKE & COMBUSTION
SPECIFIC GRAVITY • TURBIDITY • FLAME FAILURE • INDUSTRIAL and SAFETY APPLICATIONS



KNOW THE BOILER HAZE FOR OPTIMUM COMBUSTION EFFICIENCY



ELECTRONIC HAZEGAGE
FOR AUTOMATIC SIGNAL OPERATION



WYD-ANGLE PERISCOPE
FOR VISUAL OPERATION

ESS INSTRUMENT CO.
FORT LEE NEW JERSEY

WRITE FOR CATALOG NED

▲ Mention Item NED-5789 when writing ▲

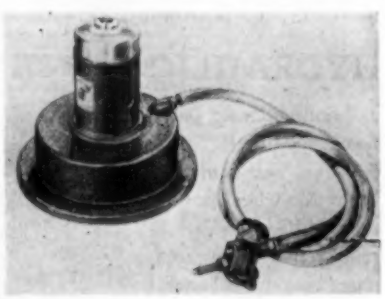
PIPE BENDER

In bending pipe at point of repair or installation, Tal's pipe bender saves as much as 3 pounds of strategic materials on 2-inch bend ordinarily requiring more expensive elbows or fittings. Unit operates by hand generated hydraulic pressure, mechanism being housed in single compact cylinder. It requires little effort to operate and its light weight permits portability to any point in plant.

No preliminary heating or filling of pipe is required, as unit can bend pipe cold. Uniformity is claimed for all bends which are formed without wrinkles, kinks or cracks in pipe. Formers in different sizes are provided for bending pipe of various diameters. Unit is made in two sizes, one for bending pipe from ⅜ to 2 inches in seven different sizes and other for bending pipe up to 3 inches diameter in nine different sizes. Units are supplied complete with benders, ready for use. Made by **Ameraco Industrial Specialties**, Dept. E., 122 S. Michigan Ave., Chicago, Ill.

▲ Mention Item NED-5790 when writing ▲

PNEUMATIC COLLET FIXTURE



Providing powerful and accurate grip on round, hexagonal or square work, Model C-18 pneumatic collet fixture is used for drilling, milling and similar machining applications. Machine capacity is 1-inch round, 23/32-inch square and ⅞-inch hexagonal. Accurate depth stop may be provided by means of hollow ram through which depth rod of required length rests on machine table. Fixture is furnished with adaptor for connecting ram to standard draw-in collet up to 1-inch capacity.

Control valve may be operated by foot pressure or it may be mounted for automatic operation by machine in its operating cycle. Ample power is provided to hold cylindrical work of alloy steel for external thread cutting operations with either self-opening die heads or standard dies. Lubricants or coolants may be freely used because fixture is completely sealed. Alternate housing is available with sealed openings so that oil may be pumped through collet to form fountain which washes away chips as they fall. Special base can be supplied containing automatic ejecting mechanism which is air operated, control being effected by foot pressure or automatically. Made by **Mead Specialties Co.**, Dept. 233, 15 S. Market St., Chicago 6, Ill.

▲ Mention Item NED-5791 when writing ▲

DO YOU KNOW?

Paperboard which is so weatherproof that boxes made of it can be submerged for 24 hours without falling apart has been developed. Packaging material is made of four to eight sheets of heavily sized paper, laminated with water soluble vinyl resin. Containers are fashioned on standard fiberboard box machinery which may be operated at full speed. Adhesives developed by E. I. du Pont de Nemours & Co., **Grasselli** Chemicals Dept., Wilmington, Del.

▲ Mention Item NED-5792 when writing ▲

LOADS AUTOMATICALLY
TRUCKER DOES NO LIFTING
ROLLS EASILY

ONE MAN quickly handles up to 800 lbs. with this SABIN One-Man BARREL TRUCK

for DRUMS, BARRELS

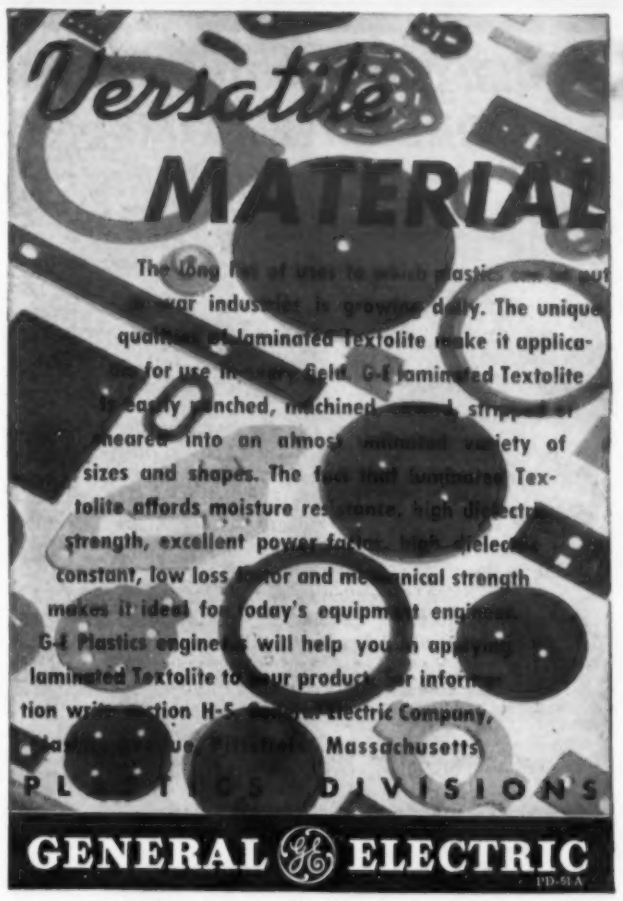
The saving of man-hours by eliminating need of helpers makes the Sabin truck a very profitable investment.
Exclusive Third-Wheel Feature provides foot pedal for easy break-over, insures better load support and permits loaded truck to stand alone.

Type L-3

Write for FREE BULLETIN showing all types

The Sabin Machine Co.
6536 Carnegie Ave., Cleveland, O.
DISTRIBUTORS WANTED
We invite your inquiries.

▲ Mention Item NED-5793 when writing ▲



▲ Mention Item NED-5794 when writing ▲

CLOSER RECORDING

At Less Cost Per Year

You'll get day-in, day-out temperature records that are accurate to a finer degree than your eyes can read, when you put Foxboro Temperature Recorders on the job.

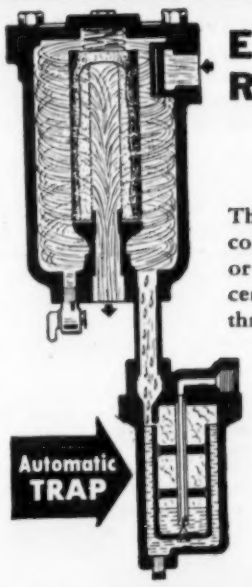
Quick response prevents pen-lag errors . . . fatigue-free construction assures permanent accuracy. And their years of faithful service with only routine maintenance will cut your costs for temperature records to a new annual minimum. Users report that these instruments still run the scale perfectly after 15 or more years of use.

Write for detailed Bulletin 198-2. **The Foxboro Company, 134 Neponset Ave., Foxboro, Mass., U. S. A.** Branches in 25 principal cities.

FOXBORO Reg. U. S. Pat. Off. TEMPERATURE RECORDERS

▲ Mention Item NED-5795 when writing ▲

Poro-Stone Filtration
FOR COMPRESSED AIR



EFFICIENTLY REMOVES:
OIL, WATER
PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 104.

R. P. ADAMS CO., INC.
79 Chicago St. • Buffalo, N. Y.

ADAMS *Poro-Stone* AIR FILTER

▲ Mention Item NED-5796 when writing ▲

SINGLE TOOL DOING THREE JOBS SAVES TIME

Information supplied by an Industrial Publication

One of the best ways of expediting machining is the use of tools that make several cuts simultaneously. True, such tools must usually be specially designed, but the time saved more than compensates for the effort of developing them.

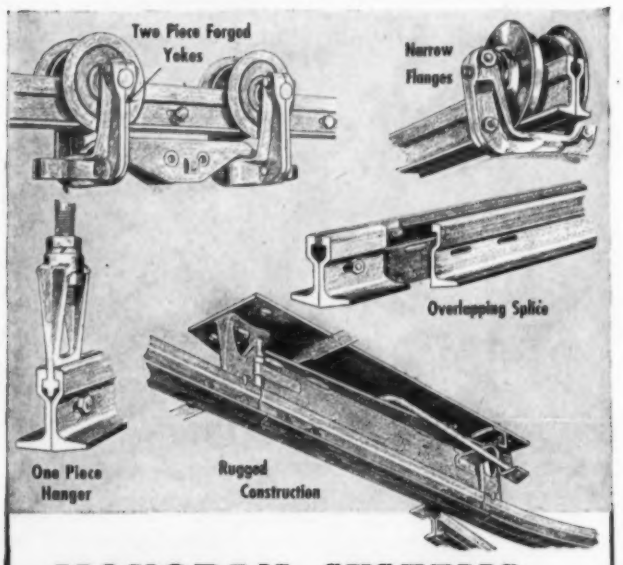
A tool developed to do three operations simultaneously on an aluminum die casting is a good example. It is a combination drill, miller and facing cutter.

The drill which cuts flash from the center hole is in the middle. It is surrounded by a four-tooth hollow mill which removes push-out pins at the bottom of the annular recess between the inner and outer walls. Above the mill, on a flange, are four cutters that remove flash and face the top edge of the casting.

All of these operations are performed with the tool in a drill press spindle, the work being held by a simple fixture. The time-saving between this method, requiring a single set-up and a single stroke of the drill press spindle, and the use of three set-ups and three tools is obvious.

CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS
MOLYBDIC OXIDE, BRIQUETTED OR CANNED • FERROMOLYBDENUM • "CALCIUM MOLYBDATE"
Climax Molybdenum Company
500 Fifth Avenue · New York City
MOLY

▲ Mention Item NED-5798 when writing ▲



MONORAIL SYSTEMS
FABRICATED TO FIT

SEND FOR BULLETIN C-1. A 56 page book showing successful applications of American MonoRail Systems
American MonoRail is fabricated to fit any handling job. Systems are available for hand or electric operation, including rubber wheel drive with local or remote control furnishing many automatic features.
THE AMERICAN MONORAIL CO.
13118 Athens Ave., Cleveland 7, Ohio

▲ Mention Item NED-5799 when writing ▲

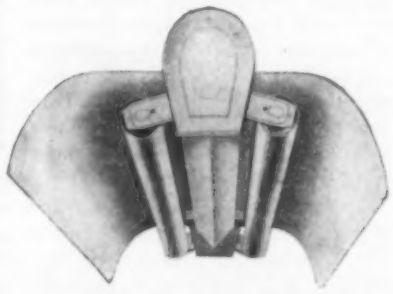
ARE YOU WASTING Precious Fuel Up the Stack?
THE PORTABLE FYRITE CO_2 ANALYZER EXPOSES STACK LOSS INSTANTLY!

Getting all the heat possible from your fuel? *Be sure*—use the FYRITE "Orsat" CO_2 Analyzer. It makes accurate flue gas tests easy—instantly exposing percentage of fuel wasted. The FYRITE is simple, rugged, cold-weather proof—has no valves, clamps or leveling bottle; no glass parts or batteries. More than 8000 FYRITES are in service.
OXYGEN ANALYZER designed on same principle available soon. Write for particulars.
$18.50 COMPLETE WITH INDUSTRIAL TYPE FLUE FILTER
RETURN THIS COUPON FOR BULLETIN 340 *on FYRITE "Orsat". Also learn how to get immediate delivery under priority regulations.*
Name
Address
City State .B
BACHARACH Industrial Instrument Co. 7000 BENNETT ST. PITTSBURGH, PA.

▲ Mention Item NED-5800 when writing ▲

FLUORESCENT FIXTURE

Instantaneous starting is provided in this model MF-240-N fluorescent lighting unit which is designed for illuminating work area surroundings. No starting switches are required. Features include average lumen output, low voltage operation and satisfactory lamp life. There is no flickering when lamps are nearly worn out. Light output is 4200 lumens when using 3500-degree white lamps.



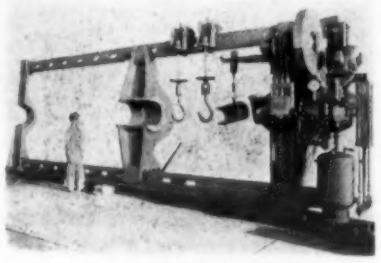
Fixture uses two 40-watt fluorescent lamps. It will continue to operate even though line voltage drops to 50 per cent. Though lamp life is decreased over normal fixtures, this cost is offset by elimination of starting switch. Power factor of fixture is 98 per cent and stroboscopic effects are corrected.

Nonmetallic reflectors are removable from top without interfering with lamp operation. Inside and outside finish is baked synthetic white gloss enamel which is easily cleaned with soap and water. Made by **The Fostoria Pressed Steel Corp., 1240 Harris Rd., Fostoria, O.**

▲ Mention Item NED-5801 when writing ▲

HYDRAULIC WHEEL PRESS

Equipped with pneumatic pullback, this 600-ton self-contained hydraulic wheel press is intended for use in railroad repair shops, machine shops and general industrial work. Openings of 10-inch radius are provided both in resistance post and end post to accommodate work. Resistance post operates on bearing equipped rollers on machined face of base plate for easy movement in either direction. Where use of stop plate is necessary, recess having 11-inch radius has been provided in resistance post in which plate is inserted.



Pump is of vertical, triplex, two-pressure type, having two high pressure and one low pressure plungers actuated by three eccentrics. Ram travel is 26 inches. Ram speed at low pressure is 10 inches per minute; at high pressure 3¼ inches per minute. Maximum capacity at high pressure is 600 tons, at low pressure 100 tons. Press can be installed flush with floor. Pneumatic pullback device not only does away with necessity of providing pit to accommodate counterweights, but gives faster rate of ram return than customary ballast weight. Made by **R. D. Wood Co., 402 Chestnut St., Philadelphia 5, Pa.**

▲ Mention Item NED-5802 when writing ▲

DO YOU KNOW?

Quickest and easiest method of adjusting non-prescription industrial safety goggles so that workers can wear them in comfort is shown in 16-millimeter sound film entitled, "Right On the Nose." Film is available without cost to safety directors, medical directors and others concerned with fitting of goggles in industrial firms. Issued by American Optical Co., 1492 Mechanic St., Southbridge, Mass.

▲ Mention Item NED-5803 when writing ▲

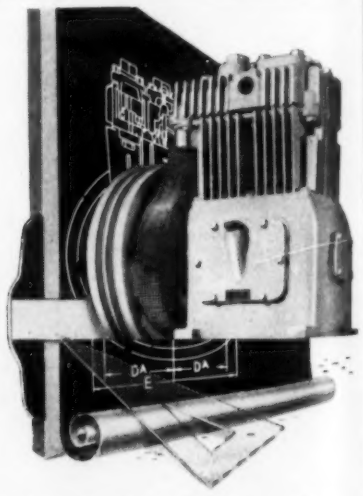
▲ Mention Item NED-5804 when writing ▲

Time-cramped plants all over the country are adopting this efficient, positive-action switch—for greater production—for added safety. Leaves both hands free for work. A must for machines that are switched on and off frequently. MOMENTARY OR MAINTAINED CONTACTS IN ALL MODELS. Rated at 20 Amps—125-250 volts, A.C.-D.C. 10 Amps—440-475 volts, A.C., up to 2 H. P. Double-pole and three-pole mechanism. 3-Phase Models rated up to 2 H. P. 575 Volts, A.C.
We Welcome Specifications on Special Requirements. Write Today for Bulletin.
SIMONDS MACHINE COMPANY, INC.
33 VIKING TERRACE SOUTHBRIDGE, MASS.

▲ Mention Item NED-5805 when writing ▲

The American R-9100-T Respirator
Its entire facepiece filters dangerous toxic dusts
Here are some of the advantages of the American R-9100-T Respirator. Its entire facepiece is a closely-felted laboratory-tested filter, compressing maximum protection into minimum space. The simple, non-reversing exhalation valve gives *positive* protection. It allows full vision . . . weighs only 1½ ounces. The facepiece is easily adjusted, gives face-fitting comfort. The AO Sanitary elastic double headband holds the R-9100-T Respirator in place without noticeable tension.
American Optical COMPANY
SOUTHBRIDGE, MASSACHUSETTS

▲ Mention Item NED-5806 when writing ▲

Modern Design
☆ INSIDE AND OUT ☆

Modern, improved design—inside and out—results in greater over-all efficiency for Quincy Compressors. Cooling area is increased 12%. Construction is simplified. Lubrication is more thorough...more positive. The policy of building air compressors *exclusively* has helped to make the name "Quincy" a symbol for dependability and efficiency. If you have compressed air problems in connection with war work, *let us help you solve them.*
Quincy COMPRESSORS
QUINCY COMPRESSOR CO. • Dept. N-8 • Quincy, Illinois

▲ Mention Item NED-5807 when writing ▲

PRECISION FILES

. . . PRECISION-MADE FOR PRECISION USE

▲ Boeing craftsman using Nicholson precision file on small instrument part for a "Flying Fortress."

Nicholson X. F. Swiss Pattern Files in use on die finishing.

MAKING quality precision files calls for workmanship of the highest order; for specific-analysis steels held uniform under rigid inspection; for manufacturing technique that demands undivided devotion to the art of file making. Nicholson has been specializing on files—and files only!—for 79 *years*.

If at times you experience difficulty in getting certain types or sizes of Nicholson X.F. Swiss Pattern Files, blame it on the tremendous wartime demand for these types of files.

FREE BOOK, "FILE FILOSOPHY"
The foremost book of its kind! 48 illustrated pages on regular, precision and special purpose files; on proper use and care of files. Send for a copy.

NICHOLSON FILE CO., 70 ACORN ST., PROVIDENCE 1, R. I., U. S. A.
(Also Canadian Plant, Port Hope, Ont.)

NICHOLSON FILES
FOR EVERY PURPOSE
NICHOLSON U.S.A. MADE IN U.S.A.

▲ Mention Item NED-5808 when writing ▲

QUESTION: WHY DOES PAINT CHIP AND PEEL FROM "HOT" GALVANIZING?

ANSWER: Galvanized and Zinc-plated surfaces require paint for lasting protection, since in most instances the protective value of galvanizing or zinc-plating is not sufficient to insure preservation.

Paint will not adhere to "hot" or untreated zinc-coated or galvanized materials because of surface characteristics and alkalinity. Without proper "cooling" and preparation for paint, chipping and peeling result, thus destroying the whole purpose of painting—metal protection.

TURCO REDI-PAINT passivates these surfaces. It effects the necessary chemical change by neutralizing alkalinity, roughening surface slightly for an anchor point for paint, making the metal resistant to corrosion, forming an inert film which will not become alkaline.

TURCO REDI-PAINT speeds production by its easy application, by hand or by tank immersion. It eliminates unnecessary backtracking because of its easily distinguishable dark color, while rapid drying permits quicker handling for further processing. 25-113

Call the Turco Technical Service Man in your vicinity or fill in the blank below for further information regarding TURCO REDI-PAINT.

TURCO PRODUCTS, INC.
SPECIALIZED INDUSTRIAL CHEMICAL COMPOUNDS
MAIN OFFICE & FACTORY: 6135 SO. CENTRAL AVE., LOS ANGELES 1, CHICAGO OFFICE & FACTORY: 4856 SO. HALSTED ST., CHICAGO 9
SERVICE MEN AND WAREHOUSE STOCKS IN ALL PRINCIPAL CITIES

▲ Mention Item NED-5809 when writing ▲

18 WAYS TO SAVE TIME & MONEY!
with the Mead Industrial Burring Machine

New circular explains, illustrates 18 ways in which the Mead Industrial Burring Machine saves time and money—also contains special Grit Guide. Every industrial plant needs this "Jack-Of-All-Trades" machine. Your burring can be done in "free time"—install these machines by every machine tool which leaves burrs. Grinds, finishes both outside and inside cut-out openings. Immediate delivery in most cases. Write for the informative Money-Saving circular now.

MEAD SPECIALTIES COMPANY
150 SO. MARKET ST. Dept. 111-N, CHICAGO 6, ILL.

▲ Mention Item NED-5810 when writing ▲

ROTARY CONVERTERS

Available in 225 and 350 volt-ampere continuous load capacities at 3600 revolutions per minute, this line of two-pole Rotary Konverters is designed for changing 32, 110 or 220-volt direct current into 60-cycle, 110-volt alternating current for operating radios, electric appliances, electronic equipment and other devices in locations where only direct current is available. Radio interference is kept at minimum through wave forms which facilitate filtering. Special filters are available for operating sensitive radio equipment.

Compact and light in weight, these machines can be furnished with speed governor for close regulation of frequency with variable direct current input. Made by Kato Engineering Co., Mankato, Minn.

▲ Mention Item NED-5811 when writing ▲

COLLET CHUCKING FIXTURE

Using four-piece, spring actuated collet which can be furnished undrilled for machining to required size, this collet chucking fixture is adaptable for use on drill presses, milling machines and other machine tools. Shaping of jaws can be performed on machine on which fixture is used, thus assuring accurate centering of work when required. Jaws may be hardened after machining for longer runs. Jaws grip work surface in complete 360-degree span.

Blank jaws are held together with retainer ring and may be stored in bin until ready for use. They are furnished in either cold rolled or tool steel. Fixture accommodates stock ranging from 0 to 1 inch, although size is limited to 9/16 inch if stock must pass through collet.

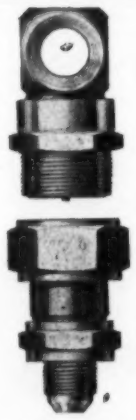
Fixture provides convenient lever for quickly locking and unlocking. Handle may be placed in position which is out of way of work. Slots permit attachment to bedplate. Fixture is machined on all sides so that it may be clamped in different positions. Made by The Wayne Pump Co., 520 Tecumseh St., Fort Wayne 4, Ind.

▲ Mention Item NED-5812 when writing ▲

DO YOU KNOW?

Use of basement space with no outside ventilation has been converted to useful work area in large tank arsenal by installation of ventilating fan, filter box and ductwork carrying air into space. Air passing through duct at 1700 feet per minute velocity is distributed evenly at outlet through installation of tear drop deflector just in advance of outlet. Ventilation equipment made by Carrier Corp., 302 S. Geddes St., Syracuse, N. Y.

▲ Mention Item NED-5813 when writing ▲



A·S·P

PRESENTS A NEW
SELF-SEALING COUPLING
FOR HYDRAULIC AIRCRAFT UNITS

A disconnecting, self-sealing coupling that really works. One prominent aircraft manufacturer writes that he has "found that this coupling is of much sturdier construction and more fool-proof design than present equipment. The American Screw Products coupling has consistently withstood 2500 p.s.i. with only finger-tightening. A sample coupling purposely crush-tightened with a long-handled wrench did not leak upon disconnection, or re-assembly. The hydraulics section of Engineering has granted unqualified approval of this coupling."

These features are important: Heavier construction of the high-strength aluminum body prevents distortion under very severe handling conditions; jamming of spring-loaded shut-off valve is prevented. Light weight cast phenolic poppets are positive-sealing in action. Springs are made of finest heat-treated steel. Synthetic gasket provides leak-proof connection when coupled for service. Available with AC or AN threads. Write for full details and prices.

AMERICAN SCREW PRODUCTS
7000 AVALON BOULEVARD • LOS ANGELES, CALIFORNIA

▲ Mention Item NED-5814 when writing ▲

LIFE TIME MARKING

Actual photo of mark on Masonite drill jig.

On Tools, Dies, Gauges, Parts, etc.

IDEAL ELECTRIC MARKER

Prevent loss or theft of hard-to-replace tools, parts, etc. Permanently mark them with identification that cannot be wiped away or worn off with ordinary usage.

Cuts its mark permanently in all materials—glass, metals, plastics, ceramics, etc. Used like a pencil; makes 7200 cutting strokes per minute. Also available with diamond point for marking extra hard materials.

IDEAL ELECTRIC ETCHERS

Permanently burn mark into iron, steel and their alloys; everything from small tools to large castings. Five sizes provide an etcher to meet every requirement—"Universal", "Thin Line", "Standard", "Heavy Duty", and "Machine Shop."

MOST COMPLETE LINE ON THE MARKET
Write for Free Detailed Literature

IDEAL *Sycamore*
★ IDEAL COMMUTATOR DRESSER CO ★
1032 Park Avenue Sycamore, Illinois
Sales Offices in All Principal Cities

▲ Mention Item NED-5815 when writing ▲

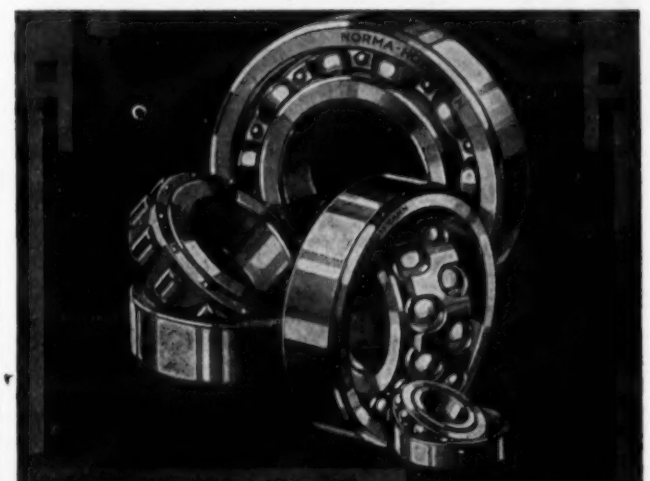
WE'RE SMASHING BOTTLENECKS IN MATERIALS HANDLING

with the CM METEOR heavy-duty ELECTRIC HOIST . . . ½ ton and up

The new CM Meteor heavy-duty wire rope electric hoist is industry's newest recruit for speeding-up production . . . aeroplane type cooling . . . true balance . . . helical gears and one point lubrication provide fast materials handling with complete safety. Write for completely illustrated catalog.

CHISHOLM-MOORE HOIST CORPORATION
(Division of Columbus-McKinnon Chain Corp.)
120 FREMONT AVE. TONAWANDA, N. Y.
Branch Offices: NEW YORK • CHICAGO • CLEVELAND

▲ Mention Item NED-5816 when writing ▲



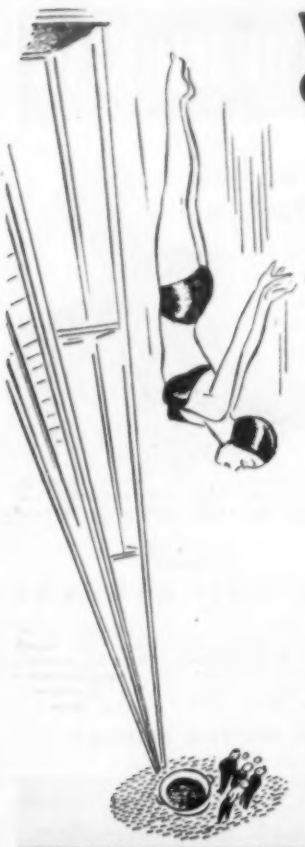
PRECISION BEARINGS

"NORMA-HOFFMANN"

WRITE FOR THE CATALOG ON PRECISION BALL, ROLLER AND THRUST BEARINGS, LET OUR ENGINEERS WORK WITH YOU.

NORMA-HOFFMANN BEARINGS CORPN. • STAMFORD, CONN., U. S. A.

▲ Mention Item NED-5817 when writing ▲



Why take CHANCES?

● Folks vital to the war effort just can't afford to dive recklessly into their bath these days—the slightest miscalculation might lead to ABSENTEEISM in its worst form! And you can't take chances with dust or fume hazards either . . . that's why you see so many DUPOR protective masks worn in the nation's finest war plants.

DUPOR TWIN FILTER RESPIRATOR NO. 4

performs a vital service in America's "all-out" industrial program—provides maximum, low cost protection against nuisance dusts. Plastic filter retainer caps can be easily removed for filter replacement. Price $19.80 doz. Sample $1.65 postpaid.

H. S. COVER, Chippewa St., South Bend, Ind.

▲ Mention Item NED-5818 when writing ▲

BETWEEN THEM STANDS

TELLEVEL

With this inexpensive device, your bins will no longer be discovered empty nor will they spill precious bulk materials or liquids. The TELLEVEL provides automatic storage control by starting conveyors, elevators or feeders when the bin is nearly empty, and shutting them off when the bin is nearly full. TELLEVELS are mounted inside the bin, and contact by bulk materials or liquids with the swinging float-ball makes or breaks electrical circuits required to operate bin feeding equipment. *Write for Bulletin 440 describing Tellevel applications. Nothing to wear out or fail.*

STEPHEN S-ADAMSON MFG. CO.

Tellevel—Bin Level · SealMaster Ball Bearings · Controls · Car Loaders · Car Pullers · Winches · ChangeMaster Variable Speed Reducers · Saco Speed Reducers

12 Ridgeway Ave., Aurora, Ill.

▲ Mention Item NED-5819 when writing ▲

RIGHT OFF THE PRESS

The Story of Propellair's

VERTI-VENT

The Fully Automatic Weather-Tight VERTICAL EXHAUST HEAD

If you have a ventilating problem involving excess Heat, Fumes, Dust or Moisture, you should send for the story of Propellair's Verti-Vent. It tells how this highly efficient, power operated roof ventilator provides consistent and uninterrupted air displacement regardless of wind direction or velocity. Illustrates and explains various types of installations—gives you a clear picture of Verti-Vent construction and operation. Mail the coupon today.

PROPELLAIR, INC., Springfield, Ohio 1 0Q

Send the new story of Verti-Vent, Propellair's vertical exhaust head.

Name..... *Position*.....

Firm Name.....

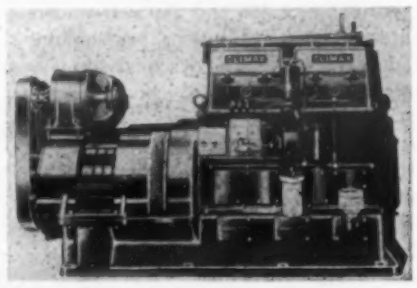
Street Address.....

City & State.....

My ventilating problem involves:
☐ Heat ☐ Fumes ☐ Moisture ☐ Dust

▲ Mention Item NED-5820 when writing ▲

SMALL DIESEL ENGINE

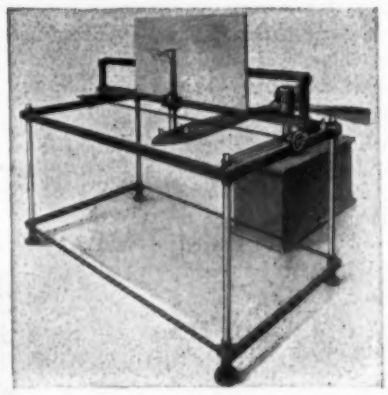


Designed for use in lighting plants and as primary drives for pumps, compressors, mills, mine equipment and marine service, two models of diesel engines are of solid injection compression ignition type. Model D-148 is two-cylinder unit with maximum rating of 22 horsepower. It may be equipped for pulley drive with or without clutch, with clutch and reduction gear, or with auxiliary power take-off. It can be furnished direct connected on single base with 15 kilovolt-ampere generator.

Model D-297 is four-cylinder engine with maximum rating of 44 horsepower. Drive equipment similar to two-cylinder model may be furnished. In addition, flywheel, clutch, generator or marine gears may be installed on either or both ends, providing radiator is not used. For electric power and light, this engine may be used to drive 30 kilovolt-ampere generator as illustrated. Made by **Climax Engineering Co.**, Dept. Y, Clinton, Iowa.

▲ Mention Item NED-5821 when writing ▲

DUPLICATING DEVICE



Exact contour of irregular surfaces can be ascertained in short period of time with the Dupligraph. This instrument transfers onto transparent paper contours of irregular objects, such as propeller blade illustrated. It will also transcribe contour directly on metal.

Device is particularly advantageous for securing concave readings in forming dies which frequently cannot be checked with ordinary templates. It also solves problem of securing true reading of stamping, showing amount of spring-back and warp. In manufacture of products which require close following of models, instrument replaces inspector's time, as it gives cross-section lines relative to each other. This is usually done on vellum and checked against drafting or layout. Result is full contour line as compared with only spot dimensional check by former method. Made by **Inter-Lakes Engineering Co.**, 502 Transportation Bldg., Detroit 26, Mich.

▲ Mention Item NED-5822 when writing ▲

DO YOU KNOW?

Designed to spur men and women in war plants to greater production, 16 and 35-millimeter sound motion picture entitled, "2311" is available to industrial concerns, service groups and other organizations. Name represents number of casualties incurred during last 24 hours before signing of armistice in World War I. Film stresses importance of time in producing materials needed by the armed forces. Available from General Electric Co., Visual Instruction Section, Schenectady, N. Y.

▲ Mention Item NED-5823 when writing ▲

SARAN

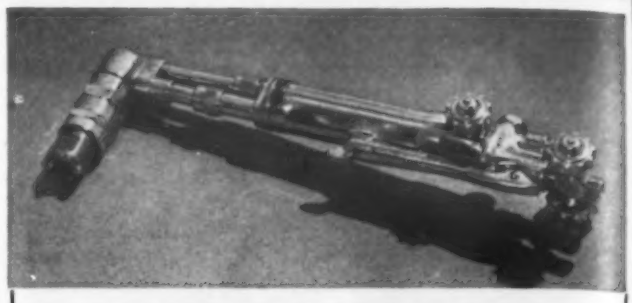
TO END ALL CORROSION PROBLEMS

Saran is a tough thermoplastic originally made to replace such strategic war materials as aluminum, stainless steel, nickel, copper, brass, tin and rubber. Now found adaptable to a wide range of uses in product designing, food processing and wherever non-corrosive materials are necessary. Its insulating qualities, flexibility and ease of handling make it extremely valuable in installations dealing with oils, gases, air, water and corrosive chemicals. It is available in tube, pipe, sheet, rod and molded fittings.

Technical Bulletin P-8 will be sent on request. Address Dept. SK
Pat. No. 2160931

HODGMAN RUBBER CO.
FRAMINGHAM, MASS.
NEW YORK . . . 261 Fifth Avenue
CHICAGO . . . 412 South Wells St.
SAN FRANCISCO . . . 121 Second St.

▲ Mention Item NED-5824 when writing ▲



A FASTER UNDERWATER CUTTING TORCH

● You perhaps will never need an underwater cutting torch, but hundreds of them are now performing tasks of major importance in salvage work.

The new VICTOR Underwater Cutting Torch, Model 3900, is an added indication of the advanced design and construction features of all Victor welding and cutting apparatus.

Write for the comprehensive descriptive bulletin on this Underwater Cutting Torch—see for yourself the numerous outstanding advantages it offers.

VICTOR EQUIPMENT COMPANY
844 Folsom Street
SAN FRANCISCO 7, CALIFORNIA

▲ Mention Item NED-5825 when writing ▲

Fast-dry Production-line Finishes

now made possible with New "Bakelite" Dispersion Resins

5 TO 10 MINUTES DRYING TIME FOR COATINGS ON . . .

PRODUCTION ITEMS

PLANT INTERIORS

WALLBOARD

METAL

WOOD

Are you seeking ways to cut time in your finishing department without sacrificing durability of your coatings? Then, investigate the high-speed paints, varnishes, and enamels made with the newly developed BAKELITE Dispersion Resins.

These new finishes air-dry to handle in from 5 to 10 minutes without "casehardening" of the film. In less than 10 minutes they can be recoated without lifting or softening of the undercoat.

BAKELITE Dispersion Resin finishes dry with equal speed on products made from wood or metal. They minimize time necessary for shop coats on structural steel, for touch-up primers, and for plant maintenance finishes. They make excellent non-penetrating sealers, as well as finishing coats, for wallboard and other fibrous materials.

These "superspeed" paints, varnishes, and enamels are available through leading manufacturers of protective coatings, who will be glad to make specific recommendations. Write Department 16 for names of suppliers.

BAKELITE CORPORATION
Unit of Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York, N. Y.

BAKELITE
The word "Bakelite" and the identifying products of Bakelite Corporation
PLASTICS HEADQUARTERS

▲ Mention Item NED-5826 when writing ▲

Below: Centralized control unit—heart of the AMPLICALL industrial sound system.

* DESIGNED TO ANSWER LARGE WAR PLANT NEEDS

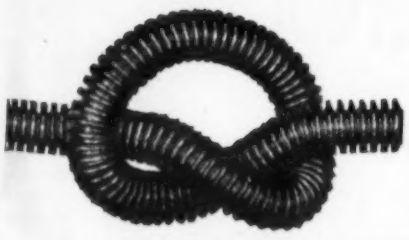
Pratt & Whitney Aircraft, Reichhold Chemicals, Ford Willow Run Bomber Plant and thousands of others from coast to coast have completely solved this problem and are profiting from the multiple uses of their *AMPLICALL* W400 Series Paging and Two-Way Communications Systems. *Locating instantly... saving precious time and countless trips...eliminating switchboard congestions...providing split-second emergency alarm protection . . . increasing production with musical programs*...are only a few of the many ways *AMPLICALL* is serving the large plants of the nation. But *whatever* your plant size, large, medium or small, you'll find an *AMPLICALL* System of a design and capacity to answer your every need dependably and profitably. Let us show you how, without any obligation to you in any way. Drop us a request line today.

Electroneering is our business **Rauland** RADIO . . . SOUND . . . COMMUNICATIONS

The Rauland Corporation . . . Chicago, Illinois

▲ Mention Item NED-5827 when writing ▲

You Can "Make Knots" on Those Difficult Installations . . . With ECLIPSE



. . . the all-metal hose that is easy and economical to install in cramped locations, around sharp bends, etc., as well as straight-away. Light in weight, yet strong and durable. Withstands high temperatures and pressures. FOR STEAM, AIR, OIL, CHEMICALS, GASES, HYDRAULIC and Other Non-Solids, Non-Abrasives.

ECLIPSE AVIATION
SEAMLESS FLEXIBLE METAL HOSE

Manufactured and Sold by

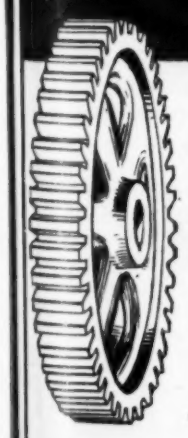
THE INVISIBLE CREW — Precision Equipment by **Bendix** AVIATION CORPORATION

Philadelphia Division:

4710 WISSAHICKON AVENUE, PHILADELPHIA, PA., U. S. A.

▲ Mention Item NED-5828 when writing ▲

Gears
PRECISION CUT
Any Material-Any Quantity



Our large modern plant is ready to serve you whether you need a single gear or a production run. We have the facilities and the equipment for fast, accurate, low cost production. We also produce generated tooth racks in any desired length, from 4 to 16 diametral pitch; 14½ or 20° teeth. Precision Surface Grinding. Sprockets for Roller Chain. You'll find it advantageous to entrust your work to us.

ASK *for* ESTIMATES

Industrial
Cut Gears · Cut Sprockets

INDUSTRIAL GEAR MFG. CO.
4541 VAN BUREN STREET CHICAGO 24, ILLINOIS

▲ Mention Item NED-5829 when writing ▲

LAMP GUARDS

Made with cantilever construction, Hoffcrafter Armored Lamp Guards have strength capable of bearing 500 pounds of weight in larger size. They will not be crushed, bent or otherwise damaged if someone steps on them or if hit by falling object.

Design assures 90 percent lighting efficiency in all directions and greater strength. Guards are made of flat, die-cut steel sheet, formed and shaped in manufacture with all points electrically welded to assure one piece construction. Made by Hoffman Co., 41-43 North Penn St., York, Pa.

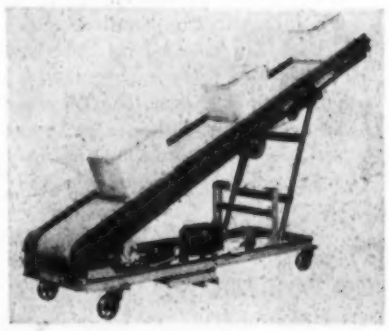
▲ Mention Item NED-5830 when writing ▲

HEAT RESISTANT GLOVES

This No. 14730 jumbo size all-leather wool-lined one-fingered mitt is designed as effective substitute for asbestos gloves used in handling hot materials. Glove is made of heat resistant leathers and mitten pattern assures ventilation and coolness for wearer. It is easily and quickly put on or removed, thus assuring safety in handling extra hot materials. Four-inch gauntlet gives added protection at wrist. Glove may also be supplied with 2-inch band or 6-inch gauntlet, if desired. Thumb is reinforced. Made by Industrial Gloves Co., 555 Garfield Blvd., Danville, Ill.

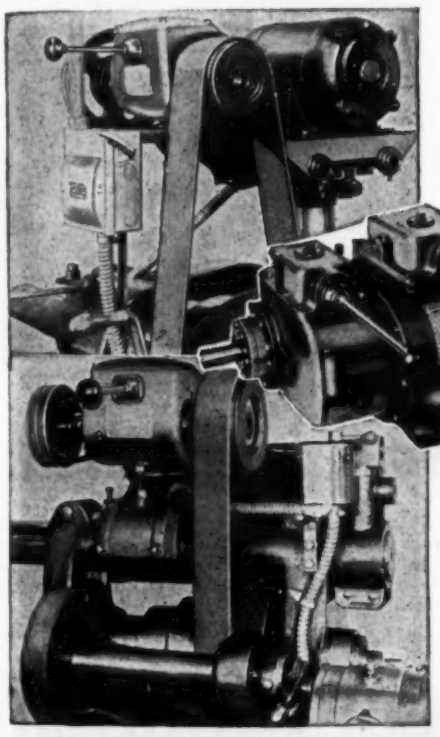
▲ Mention Item NED-5831 when writing ▲

PORTABLE BELT PILER



Capable of piling bags, boxes, cartons and bundles to and from storage, this portable inclined belt type piler is adjustable in height from 3 feet 6 inches minimum at 8 degrees to 7 feet 6 inches maximum at 30 degrees. Device is especially useful for crowded places, platform work and for truck loading purposes. Piler is entirely self-contained with power unit mounted on base frame of machine. Conveyor is provided with electric cable for plugging into convenient electric power socket. Made by Standard Conveyor Co., 831 E. Seventh St., North St. Paul, Minn.

▲ Mention Item NED-5832 when writing ▲



Western MASTER (1-5 h.p.) transmission including standard bracket f.o.b. Detroit 95.00

Western SUPER (10-30 h.p.) suitable for replacing gear boxes on large boring mills, radials, Ingersol milling machines etc. to motorize large slotters, engine and turret lathes.

Western MAJOR (5-10 h.p.) transmission including standard bracket f.o.b. Detroit 145.00

SEND FOR NEW FOUR PAGE CATALOG . . .

prompt deliveries on high priorities

up to 30 h. p. For Motorizing Lathes, Milling Machines, Shapers, Turret Lathes, Radial Drills, Slotters, Bolt Cutters, Gear Cutters, Die Sinkers, Boring Mills, etc.

WESTERN TRANSMISSIONS

WESTERN MFG. CO., 3400 SCOTTEN, DETROIT, MICHIGAN

▲ Mention Item NED-5833 when writing ▲

"TAKE NO CHANCES" Policy
Leads Heat-Treater to Micromax Pyrometers

"Never take a chance with a customer's goods—that's our policy" say the owners of the Massachusetts Steel Treating Co., "and that's why we use Micromax Pyrometers on our furnaces. Everyone knows they're standard for best temperature control."

Micromax Pyrometers for various types are described in specific catalogs—outline your pyrometer problem and we will send the appropriate publication.

LEEDS & NORTHRUP COMPANY, 4985 STENTON AVE., PHILA., PA.

LEEDS & NORTHRUP

MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES

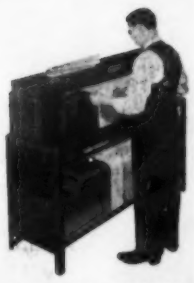
Jrl Ad N-33-620(7b)

▲ Mention Item NED-5834 when writing ▲

DIETZGEN DIRECTO
HIGH SPEED PRINTS

Black on White

Time Savers for Plants of Every Size



A complete DIRECTO unit for high-speed production requires no more space than a small table and can be operated by anyone without lengthy instruction or supervision. DIRECTO Prints are inexpensive, can be made on cut sheets or from rolls.

Dietzgen DIRECTO Prints have brought a new standard of speed to a vital part of America's routine of production. They have shortened the time between finished drawings and prints in the shop to a matter of *minutes*. Actually, with modern high-intensity light exposure machines and the DIRECTO method of semi-dry development, a finished, ready-to-use DIRECTO Print can be turned out in *less* than a minute. The advantages of this improved process are not restricted to a limited group of producers. DIRECTO Prints are saving hours where every minute counts in plants of every size and type from the smallest shops to the nation's largest. No organization using prints from drawings, diagrams, charts, or specifications can afford to overlook the economies in time or manpower made possible by this new process. Be sure *you* have the facts about DIRECTO. Your Dietzgen dealer or nearest Dietzgen office is ready to give you full information.

The DIRECTO process requires no darkroom, trays, troughs, running water, drain or other expensive service connections. No stains, messy chemicals, vile odors.

EUGENE DIETZGEN CO.

Chicago • New York • San Francisco
New Orleans • Pittsburgh • Los Angeles
Philadelphia • Washington • Milwaukee

Dealers in All Principal Cities

DIRECTO
DIRECT POSITIVE COPIES

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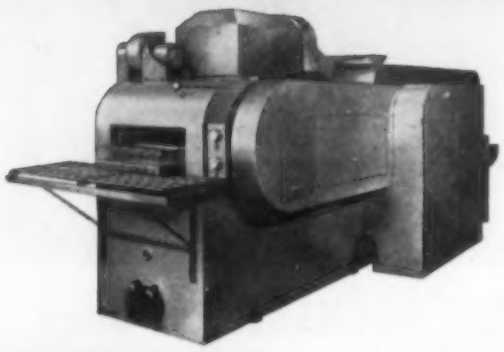
METAL PARTS CLEANING
Low Cost — Efficient



STURDY-BILT *Soaker-Hydro*
METAL PARTS CLEANER

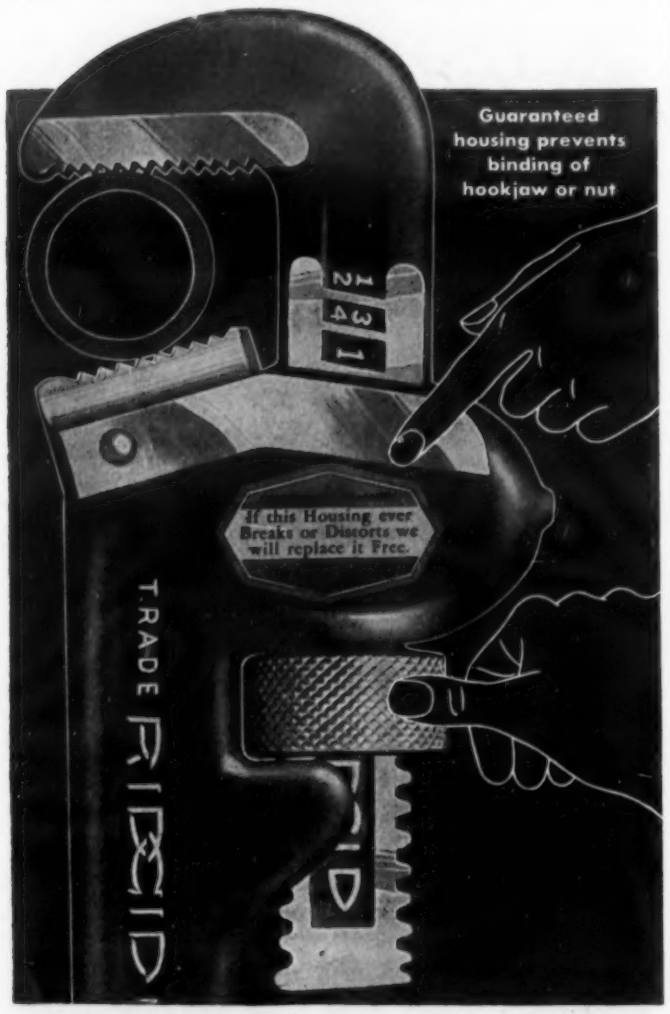
A production unit for the positive removal of dirt, chips, oils, greases, etc. Hot "SOAKING-PROCESS" combined with powerful washing action. Equipped with a built-in positive Drying Unit and Chamber. Parts are delivered properly dried and ready for the next operation.

Write for complete information

STURDY-BILT EQUIPMENT CORP.
Dept. N11 West Allis, Wisconsin

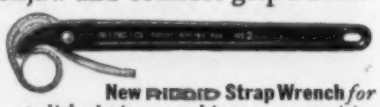
Also manufacturers of "SIMPLEX" all-purpose metal parts cleaners.

▲ Mention Item NED-5838 when writing ▲



RIGID *always*
assures you *easy*
adjustment to pipe size

● That RIGID guarantee not only saves you all wrench housing troubles, repairs and expense, but it guarantees efficient wrench performance. The housing won't break or warp, so the full-floating hookjaw and adjusting nut *always* work freely and easily — in all sizes, 6" to 60". But you get also the advantage of the no-slip jaws, handy pipe scale on hookjaw and comfort-grip I-beam handle—your men enjoy using the RIGID that saves time, work and money. Ask for it at your Supply House.



New RIGID Strap Wrench *for polished pipe or tubing—easy positive operation—typical RIGID features.*

THE RIDGE TOOL COMPANY, ELYRIA, OHIO, U. S. A.

RIGID
Pipe Wrenches, Cutters, Threaders, Vises
Fast-Working Tools for War.. and the Busy Peace Ahead

▲ Mention Item NED-5839 when writing ▲

ELECTRIC WELDER

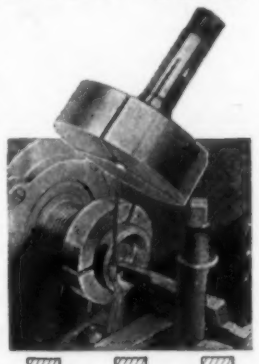
Capable of handling up to ¼-inch electrodes on basis of 24-hour day continuous schedule, model 400 Ampac welder has ample capacity for rods up to ⅜-inch size when needed. Unit is also adaptable for automatic operation. Range is 50 to 500 amperes with power factor correction available if desired. Machine has been designed to fit needs of average industrial welding shop under wartime conditions.

Features claimed for this machine include low idling loss, high power factor, ease of adjustment, high operating efficiency and excellent welding characteristics over entire range. Temperature rise and voltage breakdown tests are stated as exceeding all N.E.M.A. requirements. Only eight turns of convenient handle are required to cover entire welding range. Made by **Allis-Chalmers Mfg. Co.**, 6900 Norman St., Milwaukee, Wis.

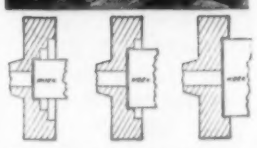
▲ Mention Item **NED-5840** when writing ▲

COLLET CHUCK

Designed particularly for second operation lathe work, G-B-M universal collet chuck is used with usual draw-in collet attachments. Unit has threaded shank to be engaged by drawbar and tapered shoulder which fits closing sleeve on lathe spindle. Both shank and tapered shoulder are hardened, but 3-inch diameter head is of cold rolled steel.



Chuck is held in lathe and recess is bored to size of work to be held. Bored arcs of three head segments form jaws of chuck to grip work when drawbar pulls tapered shoulder against closing sleeve. Since work recess is bored on same setup as other operations, work is always concentric.



Work diameters ranging from ½ to 2¾ inches can be handled. Single chuck can be used for different diameters by boring each recess to added depth as shown. Though especially adaptable to 10-inch Atlas and Logan lathes, attachments may be used on other lathes and milling machines using draw-in collets. Made by **The Gilbert-Baker-Midlam Co.**, 38 N. Jefferson St., Dayton 2, O.

▲ Mention Item **NED-5841** when writing ▲

DO YOU KNOW?

Addition of less than 1 ounce of B.C.F. agent per gallon of copper electro-plating solution is claimed to reduce by one-third the copper required for electrotype printing plates and cuts resulting scrap in half. Chemical so increases hardness of deposit that much thinner layer will give adequate service. Developed by E. I. du Pont de Nemours & Co., Electroplating Div., Wilmington, Del.

▲ Mention Item **NED-5842** when writing ▲

FOR *Moving Skidded Loads...*

Use the Truck-Man for moving skidded loads of one ton or under. Releases manpower for other duties. Used from Coast to Coast, in army depots, airports, manufacturing plants. Simple to operate. Turns in its own length. Gasoline powered. Hydraulic lift. Dependable.

Send for literature.

Priced at but **$600.00** F.O.B. Jackson, Michigan

truck-man
a product of
YARD-MAN, INC.
1410 WEST GANSON
JACKSON, MICHIGAN

▲ Mention Item NED-5843 when writing ▲

AND THEY TOLD US THEY COULDN'T COMPETE WITHOUT
WALES
HOLE PUNCHING UNITS

THIS ACTUALLY HAPPENED... Recently three men walked into our offices.

THE REASON... For years they were the leading manufacturers of their particular metal products. A newcomer started to manufacture the same products at a lower price. By checking, our visitors discovered their competitor was using Wales Hole Punching Units. That is why they stopped in to see us.

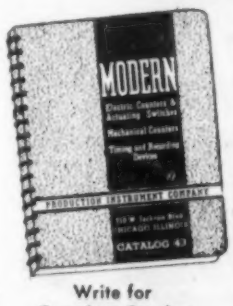
THE RESULT... We received an order from our visitors for Wales Hole Punching Units after we showed them these time-saving, money-saving features:

1. Usual time-consuming adjustments of conventional set-ups are eliminated.
2. Punch and die held in alignment by holder.
3. Each unit is independent and self-contained.
4. Straight line, staggered or scattered patterns punched with same units.
5. Same units may be used interchangeably on press brake & stamping presses.
6. Nothing attached to press ram.
7. Individual units may be instantly removed or reset.
8. Interchangeable punches.
9. Die setting time and press "down time" reduced to minutes.
10. Same units may be used and reused in active patterns.

There's Always Something New in the Wales Line to help you solve your hole punching problems. Keep posted by writing for Bulletin B.

WALES-STRIPPIT CORP.
363 PAYNE AVENUE NORTH TONAWANDA, N. Y.

▲ Mention Item NED-5844 when writing ▲



Write for Complete Catalog

Wonderful opportunities to improve production control and effect important savings of time and materials are opened up thru flexibility of application afforded by Wizard Electric Counters.

Wizards count anything that will actuate a switch, relay or photo-electric unit. They may be installed at any distance from the actual source of count.

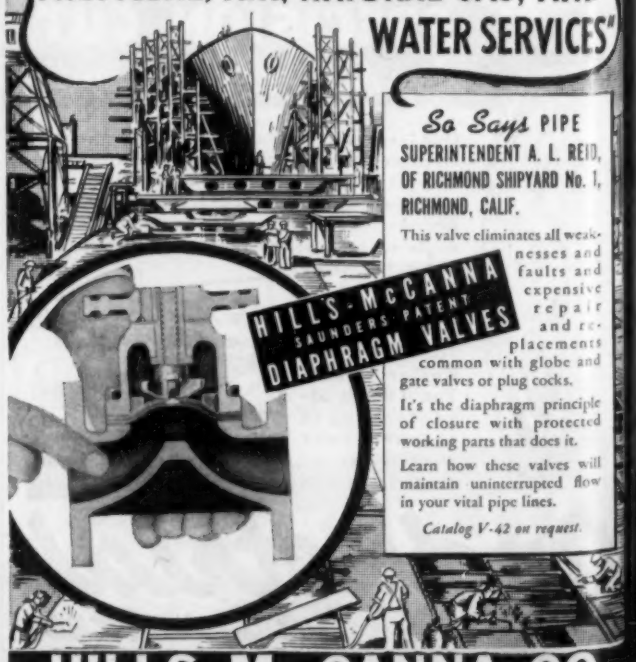
A panel of Wizards can be arranged to give a continuous, up-to-the-second count on operations thruout the plant.

For suggestions, just tell us what you want to accomplish.

Production Instrument Company
700-12 W. JACKSON BLVD. CHICAGO, ILL.
Manufacturers of Counting, Timing and Recording Devices

▲ Mention Item NED-5845 when writing ▲

"Without a Doubt-THE FINEST VALVES WE'VE EVER USED ON OXYGEN ACETYLENE, AIR, NATURAL GAS, AND WATER SERVICES"



So Says PIPE SUPERINTENDENT A. L. REID, OF RICHMOND SHIPYARD No. 1, RICHMOND, CALIF.

This valve eliminates all weaknesses and faults and expensive repair and replacements common with globe and gate valves or plug cocks.

It's the diaphragm principle of closure with protected working parts that does it.

Learn how these valves will maintain uninterrupted flow in your vital pipe lines.

Catalog V-42 on request.

HILLS-McCANNA CO.
2455 NELSON STREET, CHICAGO
PROPORTIONING PUMPS • AIR & WATER VALVES • CHEMICAL VALVES
MARINE VALVES • FORCE-FEED LUBRICATORS • DOWMETAL CASTINGS

▲ Mention Item NED-5846 when writing ▲

A PRODUCT OF THE AMERICAN STEEL BAND COMPANY

You can get
Felt-Cote Asbestos-Protected Metal ROOF-SIDING-VENTILATORS *Now!*

• PRODUCTION FACILITIES, organization, and materials on hand to assure speedy delivery and prompt installation.

• GOVERNMENT SANCTION which clears the way for any approved use. Repairs and maintenance without priority. Blanket approval for certain kinds of construction. Others subject to ruling—more favorable than might be supposed.

• INVESTMENT in such measures of protection or improvement is evidently sound where need exists, and especially if you can pay out of current earnings which will otherwise be taken from you as "excess profits." Anything up to 80% of your roofing or ventilator job may be covered by such earnings, if you act now.

• LET US DISCUSS. Learn about the long life, insulating value, and other advantages of genuine asbestos-protected FELT-COTE. Mail us rough drawings and necessary specifications. We will submit estimates with full details, or will send a representative if desired.

American Steel Band Co.
PITTSBURGH, PA.
Established 1891 Plant, Carnegie, Pa.

ROOFING · SIDING · VENTILATORS · LOUVERS · DUCTS · METAL SPECIALTIES

▲ Mention Item NED-5847 when writing ▲

METCO Means Power to Spare
with half the air!

METCO Metallizing Guns keep spraying when pressure drops to 40 p.s.i.

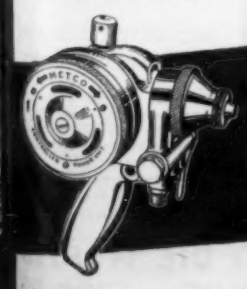
DOES YOUR metallizing gun operate inefficiently when the compressed air supply is used heavily elsewhere in the plant? *Does it even stop completely?* In either case, it is costing you time and money. METCO Type E or 2E Guns never require more than 65 p.s.i. . . . *and will operate efficiently at pressures as low as 40 p.s.i.!*

Even without fluctuating air pressures, metallizing equipment which demands 85 p.s.i. is costly. High pressures mean greater air consumption . . . more horsepower . . . larger compressors. Conserve vital power and equipment! Get maximum economy and operating efficiency in *every* respect—by specifying METCO! Write for particulars, prices, and priority data.

METALLIZING ENGINEERING COMPANY, INC.
38-24 30th Street Long Island City 1, N.Y., U.S.A.

Ready—the first real Metallizing Handbook

KNOW-HOW is as important to successful metallizing as equipment, and METCO provides ***the best of both.*** *Packed in the carrying case with each METCO Gun is a copy of this new, 80-page Handbook on every phase of metallizing—together with a complete Gun Instruction Manual. Extra copies of the Handbook can be obtained for the nominal charge of $1.00.*

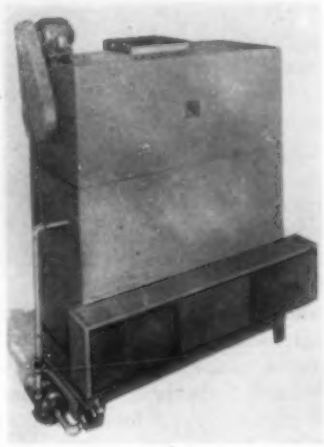


METCO

WORLD'S FINEST METALLIZING EQUIPMENT

▲ Mention Item NED-5848 when writing ▲

EVAPORATIVE CONDENSERS



Featuring built-in air filters to protect against impurities in cooling system, this line of Wat-R-Miser evaporative condensers uses water evaporation in continuously moving airstream to effect heat transfer. This equipment is adaptable to wide variety of industrial applications such as cooling quenching fluids, cooling oil for large diesel engines, cooling jacket water and similar uses.

All models, which cover capacities ranging from five to 100 tons, are equipped with air filters. Use of clean air reduces impurities in system and eliminates clogging of line, plugging of spray nozzles, need for excessive head pressures and abnormal pump maintenance. Filters are rust proof and construction is such that they may be removed easily and washed or cleaned when necessary. Made by **Drayer & Hanson, Inc.,** 738 E. Pico St., Los Angeles 21, Calif.

▲ Mention Item NED-5849 when writing ▲

DUPLICATING BENDER

Though especially developed for aircraft and marine work, No. 3 Di-Acro bender is also adaptable for forming greater diameters than is possible with previous models in all types of industrial applications.

In illustration light weight pipe support is being formed into 7-inch diameter circle and with two right angle uniform bends. Work is performed easily by women operators.

Accuracy within tolerance of 0.001-inch is obtainable on all duplicated work. Two-way action is provided with either right or left hand mounting or operation. Operating leverage of 35 to 80 inches affords capacity to handle up to ½-inch cold rolled bar formed cold to 1-inch radius or larger. Greater capacity is possible with more ductile materials.

Machine will form or duplicate shapes from all types of tubing, channel, angle or I-shaped sections and round, square, flat or other shaped solid or open cross section materials. No dies are required. Made by **O'Neil-Irwin Mfg. Co.,** 320 Eighth Ave. S., Minneapolis 15, Minn.

▲ Mention Item NED-5850 when writing ▲

DO YOU KNOW?

Checking and sorting of metals for depth of case hardening and other metallurgical factors is accomplished electronically with new cathode ray instrument based on use of Cyclograph. Device compares known metals with unknown pieces. It is also adaptable for sorting according to analysis, heat treatment, structure, size, plating thickness or whether magnetic or non-magnetic. Made by Allen B. Du Mont Laboratories, Inc., 2 Main Ave., Passaic, N. J.

▲ Mention Item NED-5851 when writing ▲

STAMPING
MULTIPLE CHARACTERS

with Matthews
***Champion'* HOLDER**

Made for hand stamping or press use... Matthews 'Champion' Holder can be used for 90% of all heavy or medium duty marking applications. Type changing is amazingly fast... marking is clean cut and in alignment. Write for Catalog 146-A for full particulars.

FOR HAND STAMPING

FOR PRESS STAMPING

FOR STAMPING ROUNDS

JAS. H. MATTHEWS & CO.
3943 Forbes Street Pittsburgh (13), Pa.
Branch Plants
New York, Boston, Chicago, Philadelphia, Newark, Syracuse
District Sales Offices
Cleveland Detroit Hartford Birmingham

▲ Mention Item NED-5852 when writing ▲

IT COSTS LESS—To Use
AURAND
CLEANING TOOLS

No special skill is required to use the Aurand Cleaning Tool—cutter heads are renewable—and it takes less time to do a thorough cleaning job. Aurand Cleaning Tools remove paint, scale, rust and other accumulation by powered, rotary chipping. An even depth surface is assured by an adjustable shoe control.

For Further Information Address Dept. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

▲ Mention Item NED-5853 when writing ▲

Take Care of NEW EMPLOYEES

Providing washing facilities for new workers can be easily accomplished with Bradley Washfountains. These group fixtures serve clean running water to 8 to 10 persons simultaneously. Physicians say that adequate sanitary washing is a well recognized preventive for skin affections and thereby saves lost hours and days of production.

Bradleys serve greater numbers in less space and encourage regular and proper washing. An ounce of prevention is worth a pound of cure . . . Is your plant adequately equipped with sanitary washing facilities? Do you require additional wash-rooms for new employees? Then write for New Catalog 4308. BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan St., Milwaukee 1, Wis.

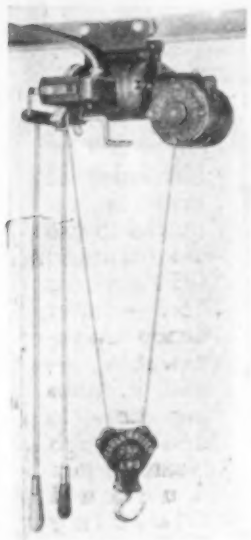
Each Bradley takes the place of 8 to 10 "single-person" wash basins.

***BRADLEY** wash fountains*

▲ Mention Item NED-5854 when writing ▲

▲ Mention Item NED-5855 when writing ▲

Women can do men's work— Men can do MORE with



CABLEMASTER

THE NEW LIGHT HOIST

The CABLEMASTER may be installed at each machine or bench to handle heavy lifting and facilitate inspection. Eliminates waiting for general overhead hoist. Enables women to take on scores of new jobs.

CABLEMASTER is available in 250, 500 and 1,000 lb. capacities. Each size *especially designed* for its rating. Equipped with hook or trolley mounting. Quickly attached to present monorail. Four-foot jib crane also available. Phone, write or wire for complete details on CABLEMASTER hoists.

THE MASTER ELECTRIC COMPANY
INDUSTRIAL EQUIPMENT DIV. – DAYTON, O.

▲ Mention Item NED-5856 when writing ▲

Looks you straight in the eye!

● Roll a load on the platform of a Fairbanks-Morse Scale . . . quickly the pointer comes to rest and the easily read dial looks you squarely in the eye. It is *right.*

Repeat this operation until hours add up to weeks, and weeks add up to years. The Fairbanks-Morse Dial still looks you straight in the eye, still tells you the truth — and the whole truth.

Sturdy construction withstands rough usage. There are no springs or delicate parts. Gaskets exclude dirt from the dial housing. Pivots and bearings are made of hardened tool steel. Bearings, loops, and nose irons are rust resistant. And 113 years of scale building experience synchronizes *all* features into a good scale that *stays good.*

Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago. Branches and service stations throughout the United States and Canada.

FAIRBANKS-MORSE
DIESEL ENGINES · WATER SYSTEMS · PUMPS · SCALES · MOTORS · STOKERS · GENERATORS · FARM EQUIPMENT · RAILROAD EQUIPMENT
Scales

▲ Mention Item NED-5857 when writing ▲

SIDE DUMP STOKERS

All working parts such as unit fan and motor are combined at front in Deluxunit model of Canton Wormfeed side dump stoker. This results in easier operation and saving of valuable space. Of special importance is fact that installation costs are usually lower, particularly when converting from oil, gas or handfiring. As illustration shows, model is available not only with full furnace front, but also with lower front and ashpit doors only, as job requires. Made by **Canton Stoker Corp.**, 201 Andrew Pl. S. W., Canton, O.

▲ Mention Item NED-5858 when writing ▲

HOLDER-RETRIEVER

Fully flexible and easily manipulated, this combination holding and retrieving tool facilitates assembly and other operations. It can be turned or twisted into countless shapes and angles to place or remove parts or screws in difficult spots. Regardless of how it is twisted, hand pressure on spring handle extends and opens gripping jaws to grasp or hold objects. Fallen objects are quickly and easily removed from otherwise inaccessible places. Tool is available on AA-5 priority rating or higher. Made by **New Britain Machine Co.**, Dept. A, New Britain, Conn.

▲ Mention Item NED-5859 when writing ▲

AIRCRAFT CONTACTOR

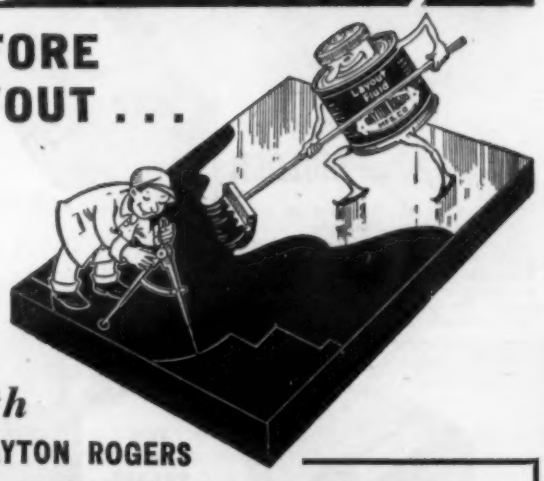
Manufactured to meet Army Air Force specification No. 94-32185D, type B2A 25-ampere aircraft contactor is available in class 9350 contactor line which previously included only 50, 100 and 200-ampere sizes. These units may be used for remote control, starting and stopping of direct current motors, or as relays in gun fire, lighting or communication circuits. Simplicity of design and heavy duty contact capacity assure dependable performance under severe flight conditions.

Weighing only 7 ounces, contactors are rated at 25 amperes continuous duty for potentials up to 29 volts direct current. They will operate successfully under acceleration forces of up to 10 times gravity or vibration conditions as severe as 55 cycles per second at 1/16-inch excursion. They are suitable for operation through temperature range of minus 65 to plus 160 degrees Fahr. Made by **Square D Co.**, 4041 N. Richards St., Milwaukee 12, Wis.

▲ Mention Item NED-5860 when writing ▲

No Polishing!

BEFORE LAYOUT . . .



with

DAYTON ROGERS

LAYOUT FLUID

Speed up your lay-out work, relieve eye-strain and improve accuracy with Dayton Rogers LAYOUT FLUID. No time wasted polishing surface. Just wipe off and apply this deep Dye Blue with brush. DRIES INSTANTLY! Use on steel, brass, aluminum, stainless steel, tin, copper. Also splendid for periodic piece inspection to check accuracy of production runs.

PRICES—Handy 4 oz. Brush-in-Can, 40c. Pint, 60c. Quart, 90c. Gallon, $2.50. Circular on request.

DAYTON ROGERS MANUFACTURING CO.
2837 12th Ave. S., Minneapolis 7, Minn.

▲ Mention Item NED-5861 when writing ▲

New Catalog on Burndy HYLINE ELECTRICAL CONNECTORS

(Indent type)

Pat. No. 2,109,837

For all wire sizes from #30 to 2000 mcm

Invaluable to engineers and equipment designers. Gives complete data on all Burndy HYLINE connectors (indent type) . . . including terminals, end-to-end connectors, detachable connectors, Versiflex insulating tubing, etc. Write for your copy, to-day; or, ask to have Burndy engineers assist you on any electrical connector problem.

BURNDY ENGINEERING CO., INC.
307 EASTERN BOULEVARD, NEW YORK 54, N. Y.

▲ Mention Item NED-5862 when writing ▲

What's NEW in PISTON RINGS?

Call in RAMCO for Data and Engineering Recommendations

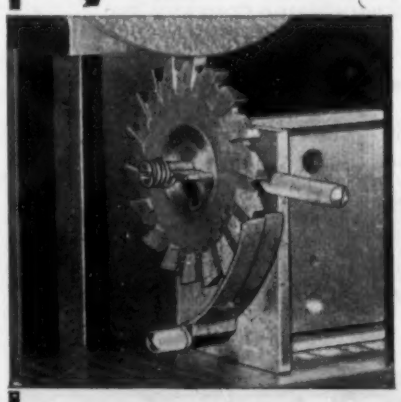
Do you operate engines? Or build machines requiring piston rings? Whether or not you are conscious of the need for improved piston ring performance, get in touch with us! Many are the recent developments in design and precision of piston rings! We will gladly show you how you may utilize them to conserve oil and reduce the cost and frequency of engine repair! If you operate motor vehicles or stationary gasoline engines **WRITE FOR FREE ENGINE OVERHAUL MANUAL** containing latest, most approved installation practices, etc. Address all inquiries to **RAMSEY ACCESSORIES MFG. CORP., 3720 Forest Park Blvd., St. Louis, Mo.**

Manufacturers of Automotive, Industrial and Aircraft Piston Rings

RAMCO
Especially Engineered
PISTON RINGS
FOR YOUR SPECIFIC REQUIREMENTS
FOR REPLACEMENT . . . FOR ORIGINAL EQUIPMENT

▲ Mention Item NED-5863 when writing ▲

Milling Cutters GROUND QUICKLY WITH KUTRITE



AVOID WEEKS OF DELAY
●
SAVE SKILLED MAN-HOURS
●
SHARP CUTTERS ALWAYS ON HAND
●
ACCURATE, UNIFORM GRINDING ASSURED

★ Now you can grind your own milling cutters, gear cutters, forming cutters, circular saws, etc., right in your own shop, with the new Acro KUTRITE. What's more, almost any good handy man can grind both the end and sides of cutting edges to exacting requirements—quickly. Why wait WEEKS for cutters that can be ground in MINUTES? Keep your cutters always in prime condition, ready for instant use. Eliminate grinding "bottlenecks". Save time and money. Order KUTRITE today.

See your Jobber or Write Direct for Immediate Delivery!

ACRO TOOL AND DIE WORKS
4892 N. Clark St. IRVing 8500 Chicago, Ill.
Precision Machinists ● Tools ● Dies ● Metal Specialties

▲ Mention Item NED-5864 when writing ▲

PAINE CONDUIT CLAMP

Correct size Stove Bolts furnished FREE with each clamp.

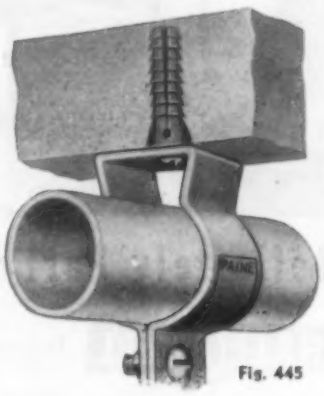


Fig. 445

All clamps are rust proofed and are designed to hold porcelain bushings, thin wall or rigid conduit, also armored cable.

Illustration showing clamp anchored with PAINE Woodscrew Lead Anchor, Fig. 950, in concrete.

Ask your Supplier and write for Catalog.

THE PAINE CO.
2977 Carroll Avenue Chicago 12, Illinois

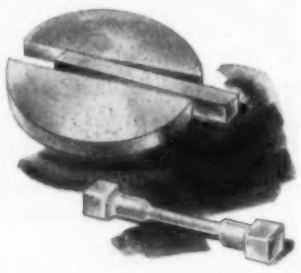
Offices in Principal Cities

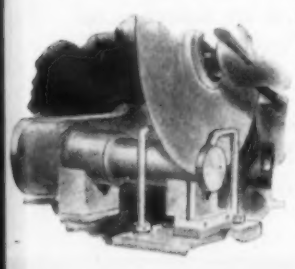
PAINE FASTENING and HANGING DEVICES

▲ Mention Item NED-5865 when writing ▲

CLIPPING COUPONS FROM AIRPLANE ENGINE CRANKSHAFTS!

TO give manufacturers complete records, "coupons" are "clipped" from the ends of airplane crankshafts. These are discs of metal used for testing and reference. They are removed with minimum waste, maximum speed and without heating the metal by abrasive cutting off wheels.





Speed and precision count for so much these days that cutting off wheels by Carborundum are coming into much wider use—to cut plastics, glass, brick, tile, steel, and non-ferrous metals. They, too, are "Weapons for Production." Use them wisely.

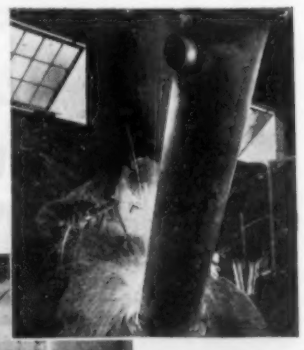
CARBORUNDUM ABRASIVE PRODUCTS

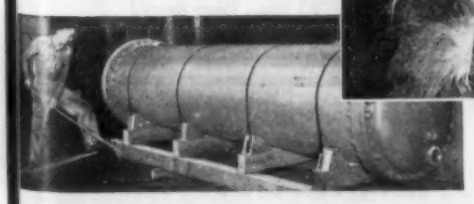
Sales Offices and Warehouses in New York, Chicago, Philadelphia, Detroit, Cleveland, Boston, Pittsburgh, Cincinnati, Grand Rapids
(Carborundum is a registered trade-mark of and indicates manufacture by The Carborundum Company)

THE CARBORUNDUM COMPANY, NIAGARA FALLS, N. Y.

▲ Mention Item NED-5866 when writing ▲

WORKMEN LONG SKILLED IN THEIR ART...





Build Adsco heaters to your order

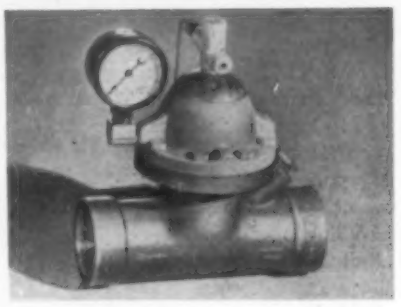
This is why America's largest industries — shipbuilders — institutions — Army and Navy look to Adsco for heaters — horizontal or vertical — storage or instantaneous — heat economizers or special equipment to heat or cool water, oil or other liquids. Submit details of your heating or cooling problems or write for bulletin 35-75 D.

AMERICAN DISTRICT STEAM COMPANY
NORTH TONAWANDA, N.Y.

ADSCO HEATERS
Are built just right for the job
STORAGE AND INSTANTANEOUS HEATERS
ECONOMIZERS · HEAT OR COOL WATER
OIL OR OTHER LIQUIDS

▲ Mention Item NED-5867 when writing ▲

AUTOMATIC STOP VALVE



Adaptable for use on air or gas pressure lines where there is any danger of fractures or leakage resulting in pressure loss or damage, Grove automatic stop valve shuts off flow when pressure falls to preset point. It must then be manually reset before flow is permitted to be resumed.

It can be operated on rate of flow differential pressure or on direct static line pressure. In its wide rangeability, a 300-pound valve may be set to operate at any pressure from 5 pounds to 300 pounds. Stop point is established by merely presetting desired shut-off pressure in dome. Made by **Grove Regulator Co.**, 6533 Green St., Emeryville, Calif.

▲ Mention Item NED-5868 when writing ▲

COLORED METAL COATING

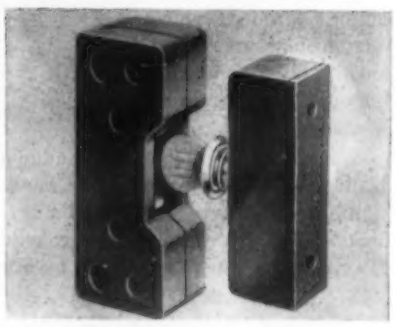
Providing broad color range, Poroseel is non-organic coating which is applied to metal. White, brown, gray, olive drab and blue are basic colors which are available, but finish can probably be matched to any required color without affecting efficiency of coating.

Finish can be applied in one or two coats on sheet steel, malleable or cast iron either by spraying or dipping. It is not paint, and although non-organic, it is not to be confused with porcelain enamel. Laboratory tests under normal plant operating conditions indicate that heat resistance is high even though finish matures at temperatures ranging from 250 to 750 degrees Fahr. This permits application to light gage metals without distortion.

Poroseel is highly resistant to corrosion, acids, solvents, heat and abrasion. It is homogeneous and odorless, remaining intact at 1100 degrees Fahr. Made by **Penco Corp.**, 5601 Eastern Ave., Baltimore 24, Md.

▲ Mention Item NED-5869 when writing ▲

DOOR INTERLOCK SWITCH



Serving as emergency device to interrupt control circuits where access doors are opened when power is on, this door interlock switch has carrying capacity of 10 amperes, 110 or 220 volts alternating or direct current. It has an emergency alternating current opening capacity of 7½ amperes, 110 or 220 volts; direct current capacity on low inductive circuits, 5 amperes, 125 volts; 2½ amperes, 250 volts.

Application covers wide range where doors, windows or covers must be interlocked for protection of equipment and safety of personnel such as doors on radio transmitters, x-ray and therapeutic machines, burglar alarms and signal controls for fire doors. Made by Specialty Div., General Electric Electronics Dept. **General Electric Co.**, Schenectady, N. Y.

▲ Mention Item NED-5870 when writing ▲

Quilted Asbestos Mitt won't fray

ON TOUGHEST JOBS
Troubled executives find new *QUILTED* asbestos mitt *won't* shred, *won't* fray on tough jobs handling hot metals, molds, other hot materials. Quilted both sides, reversible to fit either hand; gives double duty, double wear. Just one of many interesting Safety Ideas invaluable to production-minded executives. 4300 items in line—gloves, aprons, sleeves, spats, etc. *Send for new catalog now.*

No. 12022 Asbestos Mitt. Reversible, Quilted. Use on either hand. Double wear, double savings. Lined; all seams double stitched.

OLD HICKORY STEEL GRIP MADE IN U.S.A. REG. U.S. PAT. OFF.
Famous Industrial Safeguards Since 1910

INDUSTRIAL GLOVES COMPANY
638 Garfield Blvd. Danville, Illinois
(In Canada: Safety Supply Co., Toronto)

▲ Mention Item NED-5871 when writing ▲

WEDGE Split CHILL RINGS Reduce WELDING COSTS!

Patent No. 2,156,169

WEDGE Chill Rings with the patented SPLIT Feature will reduce labor cost and save time. You get good work from less skilled help. Best of all, you get a REINFORCED joint that will withstand shock, strain and vibration.

Split Feature Patented

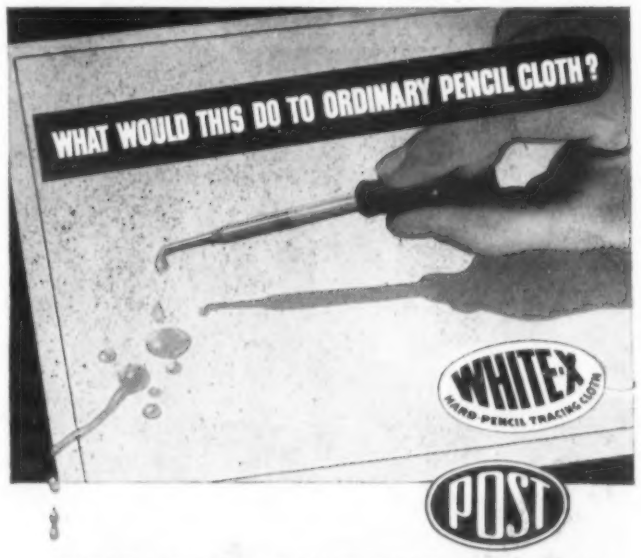
for ANY Type PROTECTOR Consult WEDGE

We make a complete line of Closing Plugs, Pipe Protectors, Plain Ends and Thread Protectors and can make up special to meet your needs. Many are used to protect threads on valuable parts while in storage, handling or shipping.

WEDGE PROTECTORS, INC.
9528 RICHMOND AVE. CLEVELAND 5, OHIO

Use WEDGE Chill Rings-Thread Protectors!

▲ Mention Item NED-5872 when writing ▲



MOIST HANDS CAN'T MAR WHITE-X SURFACE OR TRANSPARENCY

The moisture resistance of White-X is important. Because of it White-X "takes" hard-pencil lines uniformly black no matter how many moist hands have come in contact with its special surface. And since water on White-X leaves no ghosts, prints from pencil drawings are more vivid in contrast—more uniform in line and background. Write for free samples of White-X.

The Frederick Post Company
KEYSTONE 7000 · CHICAGO

▲ Mention Item NED-5873 when writing ▲

Facts about ANTI-FRICTION
BEARINGS

Anybody who reads this handy little volume will have a clearer understanding of what bearings do, how they function, all their different types, and how they are applied.

It is "MUST" reading for those who have anything to do with selecting, using or servicing bearings. No "selling" in it—just 32 pages of simple common sense, with more than a hundred helpful diagrams, phantom drawings and photographs. Handy pocket size.

A copy will be sent you on request

AHLBERG BEARING COMPANY
Manufacturers of "CJB" Master Ball Bearings
3042 N. 47th St., Chicago, Ill.

▲ Mention Item NED-5874 when writing ▲

How else could you do this job economically?

To weld all seams and joints of this complex weldment down hand, the weldment had to be tilted, rotated, twisted, and turned—had to be held in a score of different positions. This is easily done with a C-F Positioner, for at the push of a button it will rotate a weldment (thru 360°) or tilt it (thru 135° beyond horizontal).

Without a Positioner it would require almost constant attendance of a crane and its sling crew, with horses and plenty of floor clearance for handling.

C-F Welding Positioners come in sizes and capacities up to 30,000 lbs. All are pedestal mounted and are adjustable for height.

Write for Bulletin WP-22

CULLEN-FRIESTEDT COMPANY
1304 S. Kilbourn Ave., CHICAGO 23, U. S. A.

▲ Mention Item NED-5876 when writing ▲

. . . with NORTON MOUNTED POINTS and WHEELS

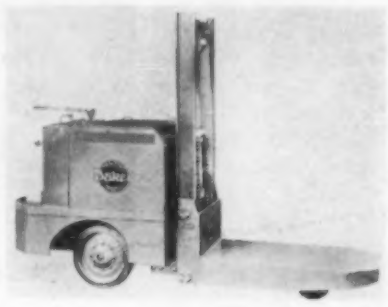
They are available for all three of these major uses and for countless other jobs—in nearly 200 standard sizes and shapes—in a wide variety of spindle diameters and lengths—in both Alundum and Crystolon abrasives—in vitrified, resinoid and rubber bonds—with a special filler treatment to prevent loading when grinding aluminum and other ductile metals. Catalog No. 43-NE gives full information. Write for a copy.

NORTON COMPANY
WORCESTER 6, MASS.
W-935

NORTON ABRASIVES

▲ Mention Item NED-5877 when writing ▲

HIGH LIFT PLATFORM TRUCK

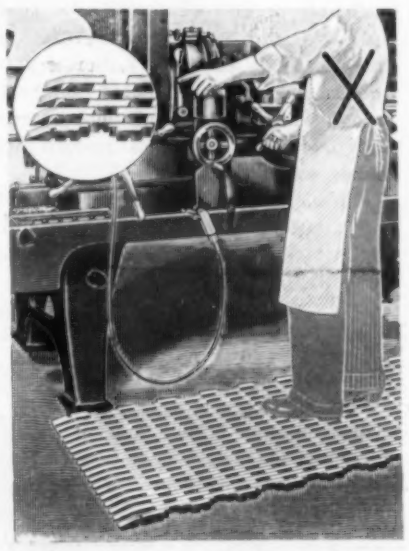


Having capacity of 6000 pounds, type H3 Hy-Lift industrial power truck combines self-loading features with tiering ability and is applicable for wide variety of materials handling operations, including both transporting and tiering of skidded material. Wheelbase is 66 inches and truck is designed for operation in 67-inch wide intersecting aisles. Overall height of 83 inches permits ready entrance into box cars for loading and provides maximum lift of 67 inches.

Battery box is of ample size to accommodate additional batteries which may be required for continuous operations on long work shifts. Hydraulic lift system affords positive control of hoisting and lowering. All controls, together with lift pump and its motor, are in convenient and readily accessible panel. Travel brake directly below control panel is adjusted by single hexagon nut which is also easily reached. Made by Baker Industrial Truck Div., **The Baker-Raulang Co.**, 2179 W. Twenty-fifth St., Cleveland 13, O.

▲ Mention Item **NED-5878** when writing ▲

SAFETY MATS



Minimizing underfoot hazards and reducing leg strain, Sur-Mat safety mats are made of long wearing hardwood sections, woven together with galvanized, rust resisting spring wire. Mat follows contour of floor and assures firm, restful footing for workers. Bevelled ends reduce tripping hazards and open work design permits filings, metal chips and sawdust to fall therein and provides safe, clean footing for worker.

Special nesting feature for adjoining sections permits use of mats around all types of machinery. Regardless of size and number of sections used, treads lay as one solid continuous mat and do not shrink. Mat is rolled quickly and easily for floor cleaning purposes. Made by **Surty Mfg. Co.**, Dept. NED, 4137 W. Kinzie St., Chicago, Ill.

▲ Mention Item **NED-5879** when writing ▲

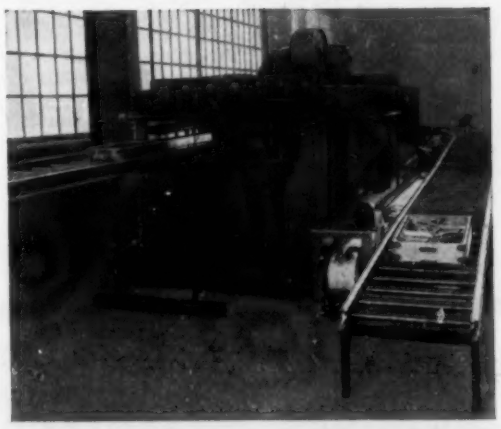
DO YOU KNOW?

Available to technical societies, schools and industrial plants, two 16-millimeter sound motion picture films in full color give complete details of principles of direct and precision measureing with dial indicators and use of dial indicator gages to control dimensions of work pieces. Films will be loaned without cost, or they may be purchased outright. Issued by Federal Products Corp., 1144 Eddy St., Providence, R. I.

▲ Mention Item **NED-5880** when writing ▲

RANSOHOFF METAL CLEANING EQUIPMENT

ONE MAN *operates this washing machine*



Used by large maker of firearms. Subassemblies and delicate parts pass through the conveyor section in racks and return to the charging end on a roller conveyor. Small work, screw machine parts and similar work pass through the drum section and return to the charging end on a canvas belt conveyor. Write today for details.

N. RANSOHOFF, Inc. 1319 Township Ave. CINCINNATI, OHIO

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Definitely Part of the Picture

HALLOWELL WORK BENCHES

In today's industrial scene, "Hallowell" Work-Benches of steel are playing an increasingly important role. Of superior rigidity and strength, they stand firm and steady without bolting to the floor, can be moved about at will, and are available in 1367 ready-made interchangeable combinations.

For your wartime needs, where the use of steel shop equipment is restricted, there are "Hallowell" Duration Type Work-Benches of Wood.

Write for detailed information.
OVER 40 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNA. BOX 581
— BRANCHES —
BOSTON • DETROIT • INDIANAPOLIS • CHICAGO • ST. LOUIS • SAN FRANCISCO

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COMMERCIAL STAMPINGS

The "Know how" of making stampings accumulated over 20 years of actual experience in forming heavy gauge metal, is at your disposal when you send your inquiries to "Commercial".

Send your blue prints, or sketches to us for quotes, we have some press capacity available.

Did you get a copy of our LITTLE HAND BOOK? if not, write . . .

The COMMERCIAL SHEARING & STAMPING COMPANY
YOUNGSTOWN, OHIO

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METAL NAME PLATES IN COBALLOY

This Material Available in Large Quantities for War Work

★

COLONIAL BRASS CO.
101 VINE STREET
MIDDLEBORO, MASS.

▲ Mention Item NED-5884 when writing ▲

NIAGARA
AERO HEAT EXCHANGER

Increases production with better cooling
Saves space and equipment
Cuts cost of water cooling

● A WATER SAVER, using the evaporative cooling principle to maintain ideal temperatures and hold them uniform by constant control. Successfully used in

- . . . *all water-jacketed equipment or engines*
- . . . *quenching water, oils or compounds*
- . . . *lubricants and coolants in machining*
- . . . *air or gas compressors, jackets, inter and after cooler*
- . . . *cooling electronic sets, welders, vacuum tubes, transformers, electric induction heaters*

Saves piping, pumping and maintenance cost of large water systems; costs less to install; saves 95% of cooling water. Provides closed system free from contamination. Provides heating when needed. For Bulletin, address Department ED-113.

NIAGARA BLOWER COMPANY
6 E. 45th Street, New York City
District Engineers in Principal Cities

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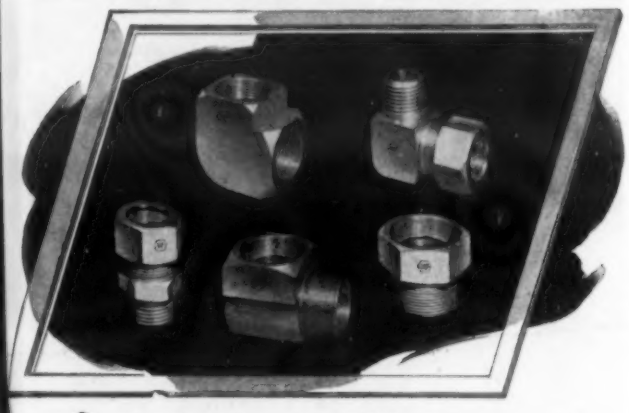

Look ahead with Weatherhead

• Relying upon the Weatherhead mark of quality for accuracy, dependability and ease of installation, automotive, aviation, machine tool, and refrigeration industries are "Looking Ahead With Weatherhead" in today's global warfare as well as the progress which peace will surely bring.

Typical of Weatherhead production for industry are Weatherhead patented inverted, S. A. E., and compression tube fittings for industrial, automotive, and refrigeration installations.

If you use tube fittings or flexible non-metallic hose, write for Weatherhead catalogs, telling us the product you manufacture.

THE WEATHERHEAD COMPANY • Cleveland, Ohio
Branches: Detroit • Los Angeles • New York • St. Louis

WEATHERHEAD WORLD'S LARGEST PRODUCERS OF FITTINGS AND FLEXIBLE HOSE ASSEMBLIES
PLANTS IN CLEVELAND, OHIO • COLUMBIA CITY, IND. • LOS ANGELES, CALIF. • ST. THOMAS, ONTARIO, CANADA

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FIRST AID KITS TO FUSES PAPER DOES THE JOB

Three cornered pants for babies—coils, condensers and cables — sure fire fuses — protection for first aid kits — plastic airplane parts! Central-created papers have an almost limitless diversity of chemical and physical properties—custom designed to meet specific industrial needs.

MEMO TO POST WAR PLANNERS: Industrial paper will be one of the most versatile of post-war materials—put Central laboratories to work on your ideas now.

CENTRAL PAPER COMPANY INC.
2422 Lakeshore Drive, Muskegon 28, Mich.

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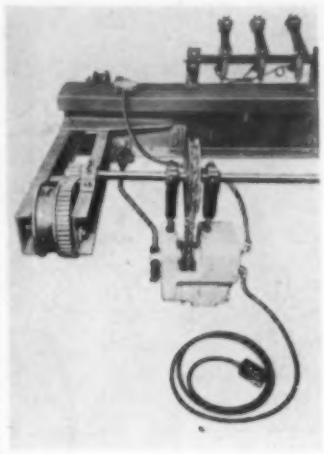
OVERHEAD CRANE DRIVE

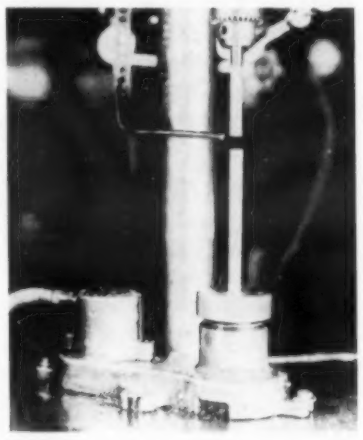


Conversion of manual overhead cranes to motor operated bridge travel is readily accomplished through use of this Budgit bridge drive. All need for machine work, drilling or fitting to apply unit to crane installation has been eliminated through design of attachment. Maintenance crew may install unit in one hour and only tool required is standard wrench.

Device will motorize hand operated cranes of either single or double girder type in sizes ranging up to 10 tons capacity, provided crane is of geared type and is operated by chain wheel of 24-inch or smaller diameters. Drive provides smooth starting, rapid acceleration and electric travel at walking speed. It is controlled by standard pushbutton which hangs within easy reach of operator. Cranes may be "inched" along runway, spotted over loads or reversed quickly without vibration or shock. Made by **Manning, Maxwell & Moore, Inc.**, Budgit Products Div., 306 Michigan Theatre Bldg., Muskegon, Mich.

▲ Mention Item NED-5888 when writing ▲

PNEUMATIC COLLET CHUCK



Actuated by air pressure, Red-E-Air chuck may be used to hold screw machine parts for second operation work on drill presses, tapping machines and milling machines. It is also adaptable for work holding on drilling, tapping, reaming, threading, chamfering, burring, counterboring and similar operations.

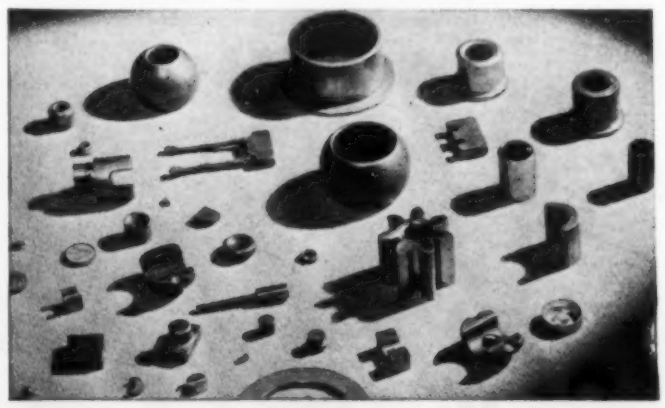
Standard Brown & Sharpe collets are used to chuck work in line with machine spindle regardless of variations in diameter of work. Fixture is controlled by foot valve so that operator's hands are free to load and unload operating machine. Leverage action multiples air line pressure in ratio of 10 to 1 for holding work in collet. No. 0 size illustrated will accommodate work ranging up to ⅞-inch in diameter. Made by **The Cleveland Airtool Co.**, 4614 Prospect Ave., Cleveland 3, O.

▲ Mention Item NED-5889 when writing ▲

DO YOU KNOW?

Eliminating uneven riveting and enabling unskilled workers to double their production, "rivet robot" device can be attached to any standard riveting gun to control number of blows applied to rivets automatically. Device is adjustable. It can be adapted also to control any liquid, gas or air flow to mechanical tools or instruments. Developed by Willys-Overland Motors, Inc., Aircraft Div., Toledo, O.

▲ Mention Item NED-5890 when writing ▲



Pressed from Powdered Metals
in One to Two Seconds

Stokes Presses for Powder Metallurgy (manufacture by compressing powdered metals) speed war production, save strategic materials, form parts in a single, automatic operation. Rates up to several hundred per minute are often possible. Parts are accurate, of uniform density, completely formed and ready for sintering.

These presses are producing iron gears, half and flanged bushings, radio cores, ordnance components, hard-carbide tool bits . . . hundreds of different metal parts.

Similar presses are available for making ceramics parts, electrical insulators, fish-spine beads, radio and communications systems parts, etc. . . . also for compressing explosives, chemicals, pharmaceuticals, foods and many other products.

We have specialized in this type of equipment for more than 45 years. Write for complete 48-page catalog.

F. J. STOKES MACHINE COMPANY
5964 Tabor Road Olney, P. O. Philadelphia 20, Pa.
Representatives in New York, Chicago, Cincinnati, St. Louis, Cleveland, Detroit
Pacific Coast Representative: L. H. Butcher Company, Inc.

F.J.Stokes FJS Est 1895

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Use "PERMAFLEX"
Resurface and Patch INDUSTRIAL FLOORS

Hard Mastic

Heavy Duty • Dustproof • Waterproof • Fire resistant • Restful • Quiet • Slipproof • Sanitary

Install any thickness required right over the old surface. Bonds perfectly—never comes loose. 3000 lbs. pressure per sq. in., will not rut. Outwears any other known flooring.

Install "Permaflex" right over your old or new floors, walks or drives . . . interior or exterior . . . on Friday night and Saturday. Ready for use Monday. No chipping. No dust. No production delays. No need to move machinery . . . finish right up to it. If desired, our Contract Department will install "Permaflex" floors for you, up to 30,000 square feet per day.

More than 400 leading industrial plants use "Permaflex" . . . including U. S. Steel, Bethlehem, Republic, General Motors, A. O. Smith, Union Carbide, Remington Arms, Anaconda, Western Electric, Westinghouse, Bush Terminal, leading Railroads . . . and never a failure in more than 1000 installations.

Industrial Plants—write for details; 100 sq. ft. trial offer . . . and prove that Permaflex makes the most durable, lowest cost, most economical industrial flooring ever invented.

INSTALL COMPLETE **12½c** per square foot

PERMAFLEX PRODUCTS COMPANY
1848 North Front Street, Philadelphia, Pa.

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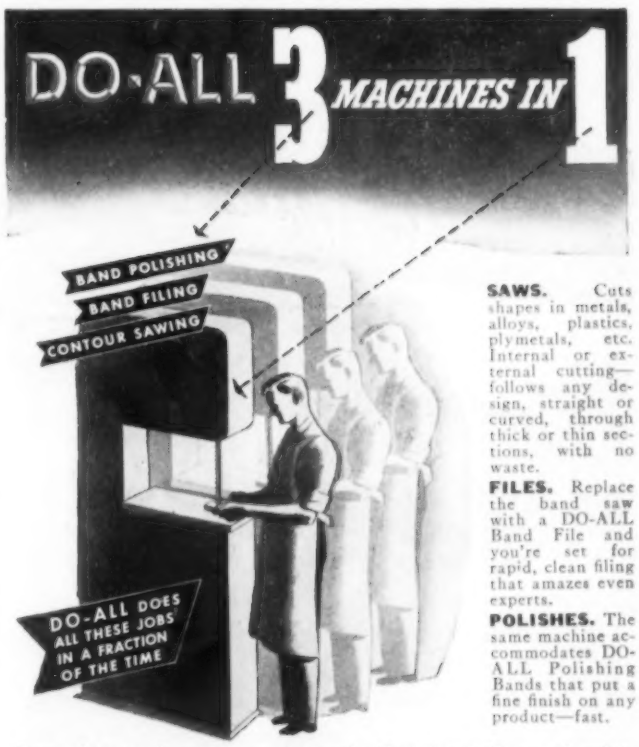
DO-ALL 3 MACHINES IN 1



SAWS. Cuts shapes in metals, alloys, plastics, plymetals, etc. Internal or external cutting—follows any design, straight or curved, through thick or thin sections, with no waste.

FILES. Replace the band saw with a DO-ALL Band File and you're set for rapid, clean filing that amazes even experts.

POLISHES. The same machine accommodates DO-ALL Polishing Bands that put a fine finish on any product—fast.

Every shop needs contour sawing and with it band filing and polishing—all possible with these new, time-saving machine tools. Six models priced from $1,000 to $5,000 with motors.

Send for a copy of 265-page Contour Sawing Book of illustrated short cuts to faster and better machining. It's free.

CONTINENTAL MACHINES, Inc.
1314 S. Washington Ave., Minneapolis 4, Minn.

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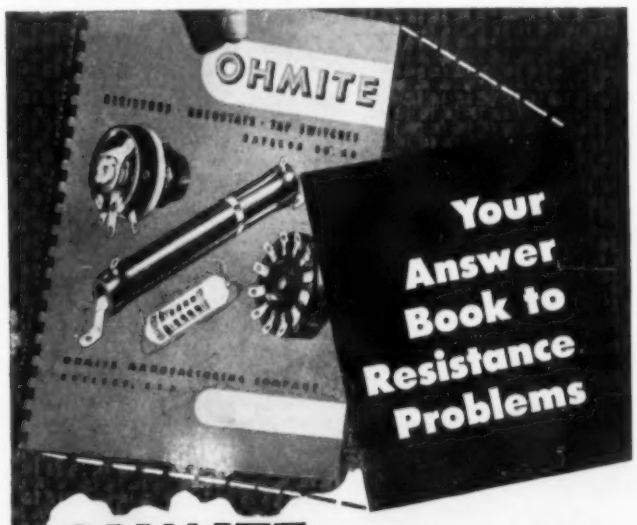


OHMITE Catalog "40"

Electronic engineers everywhere have been using Catalog "40" as their resistance guide-book. Its 96 pages are full of engineering data, charts, tables, and a manual of resistance measurements. Gives details on the wide range of Ohmite units for all types of applications.

NOTE: *if you do not already have Catalog and Engineering Manual No. 40, write for it today on company letterhead. It's free.*

OHMITE MANUFACTURING CO.
4842 W. Flournoy St., Chicago 44, U.S.A.

▲ Mention Item NED-5894 when writing ▲

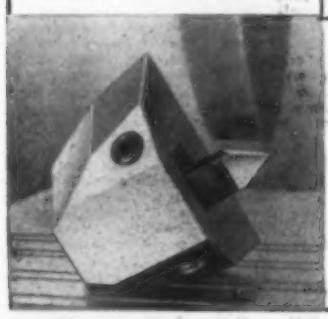
NEW CLARK THREAD TOOL GRINDING FIXTURE

CLOSE TOLERANCES

One fixture for grinding *both* National 60° and Acme 29° thread tool bits, insuring close tolerances. Saves vital materials and time. Accurate, uniform cuts. For use on any surface or cutter grinder.

CORRECT THREAD ANGLE

Every compound angle is predetermined to provide correct thread angle and clearance—no guesswork. All bits may be ground with or without rake on cutting face. Ideal for Carbide tips, all bits.



2 PRECISION MODELS

Mechanics' Model A for bits ⅛"-⅜" weighs 1½ lbs.—$16.75 . . . Heavy duty Model B for bits ⅛"-⅝" weighs 6½ lbs.—$35.00. Both complete with right and left hand adapters. Magnetic chuck convenient but not essential. Easily clamped to work table.

Write for Bulletin No. 11-A

MODELS A & B ALSO GRIND BITS FOR USE IN ARMSTRONG TOOL HOLDERS

In Canada: DOMINION BEARINGS, LTD., Toronto, Montreal, Winnipeg

Export: THE AMERICAN STEEL EXPORT COMPANY, INC., New York, Los Angeles

Robert H. Clark Company

3424 SUNSET BLVD. • LOS ANGELES 26

MANUFACTURERS: PRECISION TOOLS, PRECISION PARTS

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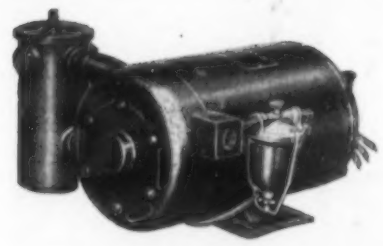
COMPACT PRESSURE or VACUUM PUMP . . . .

NO GEARS
NO DRIVES
NO GUARDS
NO BELTS



Free air volume up to 35 cu. ft. per minute

Vacuum up to 25 inches of mercury.

MOTOAIR

Motor and Pump in ONE integral unit, with visible automatic lubrication.

Less PARTS means LESS WEAR. Sturdily built; for War and Industrial requirements.

NEW JERSEY MACHINE CORPORATION

16th St. at Clinton Ave., HOBOKEN, N. J.

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Your newest trainee can't forget *these "safety goggles" — they're built-in . . .*

Extra convenience, efficiency, safety . . . with this

Delta Tool Grinder

Delta's patented Twin-Lite safety shields minimize the risk to the most inexperienced operator. They increase efficiency and accuracy by flooding the work with light, on both sides and face of the wheel, at all times, regardless of shop lighting.

This is just one of many features which give you the finest working combination on the market — regardless of price — for all-around industrial grinding.

See Your Delta Industrial Distributor

Then install one of these efficient machines—for creditable results.

Send for Delta catalog.

Specifications

Safety shields: Double thickness shatter-proof glass.
Wheel guards: meet strict safety regulations.
Tool rests fully machined, accurate, adjustable.
Wheels: True and vibrationless. Balanced to 1/100-inch ounce.
Size: One-inch face by 7-inch diameter, ⅝-inch hole.
Type: 60N and 46M aluminous oxide.
Bearings: Precision double-sealed New Departure ball bearings—lubricated for life.
Base: 14½"x15½". Tool rests 39" from floor.
Price complete f.o.b. Milwaukee, $72.00 to $89.50.
A-1-A priority required.

Tear out and mail today

M-5F

THE DELTA MANUFACTURING CO.
616M E. Vienna Ave., Milwaukee 1, Wis.

Please send me your new catalog, giving full details on the Delta Tool Grinder and your full line of low-cost machine tools.

Name_____ Position_____

Company_____

Address_____

City_____ (__) State_____

DELTA MILWAUKEE Machine Tools

DRILL PRESSES · GRINDERS · CUT-OFF MACHINES · BAND SAWS · ABRASIVE FINISHING MACHINES

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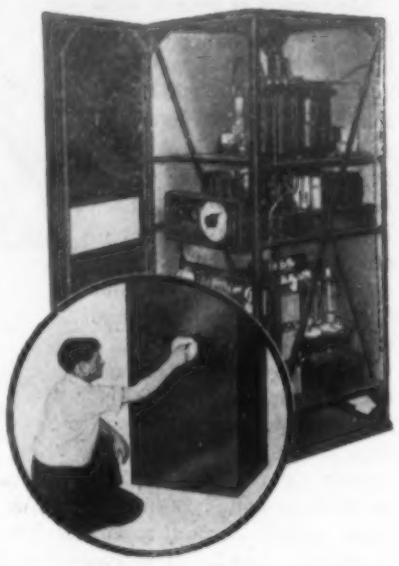
ELECTRONIC GENERATOR

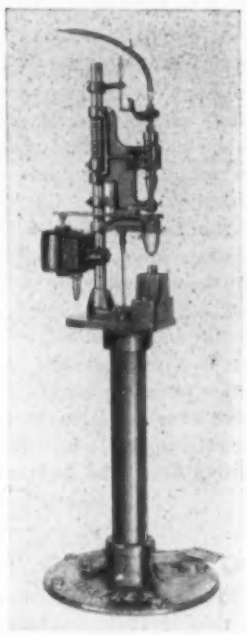


Providing wide range of frequency for testing and other purposes, model CML 1400 electronic generator is capable of delivering power with good regulation and wave form over frequency range of 300 to 3500 cycles. Production line testing to government specifications is possible. Aircraft radio installations can be tested in plane or serviced in repair shop without resorting to aircraft power supply. Unit may be used also for testing transformers and condensers.

Equipment includes variable-frequency oscillator, followed by several driver stages. Output stage uses two No. 833-A tubes in class B. Because of high impedence in electronic generators, regulation is usually poor. This difficulty is claimed to have been overcome through use of special circuit which maintains output voltage at substantially constant level from no load to full load. Power output of equipment is 1400 watts at 120 volts with load of unity power factor. Made by **Communication Measurements Laboratory**, 120-24 Greenwich St., New York, N. Y.

▲ Mention Item NED-5898 when writing ▲

RIVETING MACHINE



Available in three models with capacities of 5/32, ¼ and 5/16 inch rivets, Airflex spinner riveters have been improved through use of advance pressure pad. Consisting of aluminum housing, spring and pilot, device has pilot forerunning peening tool to hold work rigidly against rivet set. This eliminates vibration and makes accurate work easily accomplished.

Operating at 4000 to 6000 revolutions per minute, machine rivets round, oval or flat-head rivets; peens shafts, pins and studs; and furls or swages shoulder bushings and light tubes to sheet metal or plastics. Short strokes to maximum of ¼ inch are delivered to rotating tool in rapid succession by peening tool.

Air is controlled through petcock to adjust force and frequency of blows. Rotating motion is imparted by ⅛ horsepower, ball bearing, vertical motor equipped with pushbutton control. Frame travel is approximately 2 inches and throat depth is 5 inches. Frame adjustment of 4 inches on post permits accommodation of various sizes of assemblies. Made by **Airflex Equipment Co.**, 13255 Birwood, Detroit, Mich.

▲ Mention Item NED-5899 when writing ▲

FREE!

THIS GUIDE TO BETTER PRINTS

This fully illustrated booklet "You Can Still Read by Kerosene" tells you why Bruning Black and White (black line) Prints can bring you important time and cost-saving advantages over blue prints. It explains why Bruning BW Prints can be produced in large volumes by a single operator—instead of the two or three operators which a large blue print machine requires. It shows Bruning BW printing and developing machines for every type of use. To stop wasted time and motion in print making, write today for your free copy of "You Can Still Read by Kerosene."

BRUNING

SINCE 1897 2223-318

NEW YORK • CHICAGO • LOS ANGELES

Branches in 14 Principal Cities

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Increase HIS ABILITY

Give Him **AIR TOOLS**

Every worker has the desire to produce. Give him the proper tools and he'll do it.

Any portable power tool will increase the output of the operator's hands, but a lighter, smaller AIR tool of comparable power will *further* increase his production.

Ingersoll-Rand AIR tools are wanted by men on production lines. Here's why . . . . . .

LIGHT WEIGHT . . . *Air tools are lighter in weight* than other types of portable power tools, and are about *one-half the size.* This is an important factor in reducing operator fatigue.

FLEXIBILITY . . . *Air tools give maximum power immediately.* Starting and stopping are practically instantaneous. This speeds up repetitive operations. *Regulation of power* permits the use of the tools on many kinds of materials and on many types of operations.

DURABILITY . . . *Trouble-free service* is assured by the sturdy construction of AIR tools. AIR motors cannot be damaged by overloading.

POWER . . . *Air tools have more power per pound,* thereby enabling the operator to produce more work with less effort.

SAFETY . . . *Air tools are safe* because they are easy to handle and are simple in design. Compressed air is the safest medium for the transmission of power for portable tools.

Give the men on your production line every possible help! . . . GIVE HIM AIR TOOLS!

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.

COMPRESSORS · TURBO BLOWERS · ROCK DRILLS · AIR TOOLS · CONDENSERS · DIESEL ENGINES · CENTRIFUGAL PUMPS

▲ Mention Item NED-5901 when writing ▲

Sanymetal* ASBESTOS BOARD

TOILET COMPARTMENTS

Complete with Door Hardware and Partition Fittings

NOW AVAILABLE — READY TO INSTALL

Sanymetal Asbestos Board Toilet Compartments are now made in three different types for wartime installations; one of these is particularly suitable for permanent postwar installations.

SAVE TIME AND MONEY: No need to design or attempt to build makeshift toilet compartments. Sanymetal Specialists have worked out wartime toilet compartments of economic designs that are being made from noncritical materials, available today and furnished complete with door hardware and partition fittings.

CONVENIENCE AND SANITATION: These are embodied in Sanymetal Asbestos Board Toilet Compartments in a degree unappreciated and unapproached, and usually overlooked by those lacking Sanymetal's 28 years of specialized experience in this line.

SUITABLE MATERIAL AND ENGINEERED FEATURES: Asbestos Board is a rigid, structural material, formed by laminating cement-asbestos board to a core which provides a strong, rigid installation and is moisture, fire and wear resistant. Free from dirt-collecting pockets and ledges, these compartments are easy to keep clean.

ONE ORDER — ONE PRIORITY, COVERS THE DELIVERY OF EVERYTHING YOU NEED, even complete door hardware and partition fittings.

COMES READY TO INSTALL without trial erection or aggravating attempts to assemble materials.

Write for Bulletin 900-A on Sanymetal Asbestos Board Toilet Compartments, or Bulletin No. 920 describing Sanymetal Pressed Hard Fibreboard Lockers.

*Trade Mark Reg. U. S. Pat. Off.

THE Sanymetal PRODUCTS CO., INC. 1719 Urbana Rd. Cleveland, Ohio

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MEMO

to the man who is looking for **BETTER FLEXIBLE COUPLINGS**

INSTALL L-R and know what friction free correction of misalignment, backlash, etc. means

INSTALL L-R and free yourself from service bother

NO LUBRICATION EVER NEEDED

GET THE FACTS on L-R's superior performance, smoother, more dependable transmission

L-R FLEXIBLE COUPLINGS

Send for Complete L-R Catalog. Free Selector Charts lead right to coupling you want. Engineering data, prices, etc. Wire or write.

LOVEJOY FLEXIBLE COUPLING CO.

4957 WEST LAKE ST., CHICAGO 44, ILL.

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DUSTKOP

Dust Collector has it.

The DUSTKOP motor operates only when the grinder is in operation. Glass container lets you *see* when emptying is needed. Filter seldom requires replacement. Ideal for collecting dust from tool, surface, cutter and internal grinders. Operated by continuous duty, G. E. motor. Dust laden air is driven through fan and thoroughly cleaned in cyclone separator. Prompt deliveries on high priorities.

Write Now for Bulletins

Aget-Detroit Co.

Detroit Office CAdillac 3090 603 First National Bldg. Ann Arbor, Mich.

▲ Mention Item NED-5905 when writing ▲

BAY STATE

ABRASIVE PRODUCTS CO., CO., WESTBORO, MASS. U.S.A.

▲ Mention Item NED-5906 when writing ▲

The GROVE Pneumatic Gauge COMPARATOR

GROVE SIMPLICITY ACCURACY SAFETY

The Portable Method of Checking All Types Of Pressure Gauges

- Compact, portable and fully self-contained.
- Built-in high capacity rechargeable air cylinders.
- Precision laboratory test gauges accurate to within ¼ of 1% full scale.
- Completely equipped with tubing, connections and accessories.

Figure the amount of time, trouble and money you save when you check your pressure gauges "in-place" without removing them from their panels or mountings; without disturbing existing line connections. The portable Grove Pneumatic Gauge Comparator gives you this fast accurate means of accurately checking any service gauge in service. Write today for Bulletin 300.

GROVE REGULATOR COMPANY

6633 Green Street, Emeryville, California

Branch Offices:

944 Navigation Blvd., Houston, Texas—30 Rockefeller Plaza, New York City

GROVE Pneumatic Gauge COMPARATOR

▲ Mention Item NED-5907 when writing ▲

TUBING FASTENER

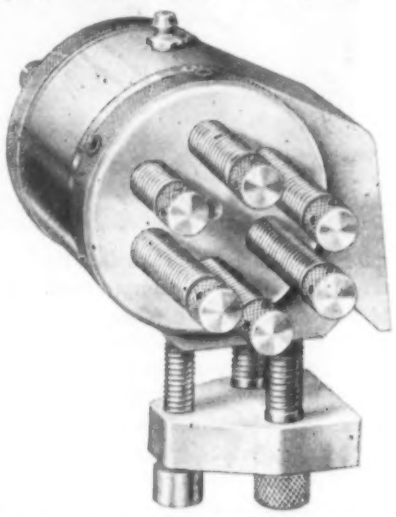
Combining functions of supporting strap and vibration absorber, this Packless Flexible fastener may be applied to stationary or movable tubing. Unit consists of cone-spiraled spring which terminates in clip for snapping on tube or similar part to be fastened. Fastener is affixed to supporting surface by means of screw, bolt, rivet or other method. Since it flexes in all directions, device can be installed in either vertical or lateral position.

When used to support flexible hose, fastener prevents whip and counteracts vibration which may be set up. Life of hose is extended. Adjustment, connecting or disconnecting of tubing or hose is facilitated because of universal action of fastener. Hose is cushioned against damage by impact. Made by **Packless Metal Products Corp.**, New Rochelle, N. Y.

▲ Mention Item NED-5908 when writing ▲

MULTIPLE LATHE-STOP

Six accurate indexed stops are provided by this precision built lathe attachment, which is designed for production work and multiple operation jobs. Device consists of body which rests on front V-way of lathe, cylinder containing adjustable stop screws which is housed into body and clamp which fastens unit to lathe. All parts are precision made and those subject to wear are hardened.



Combined with any four-way turret tool post, this device converts standard lathe into production machine. Accurate, positive lathe set-up for multiple operations is provided. Adjustable stop screws act against boss which is screwed into traverse carriage of lathe. Made by **Vard Inc.**, 2971 E. Colorado Blvd., **Pasadena, Calif.**

▲ Mention Item NED-5909 when writing ▲

DO YOU KNOW?

Constant temperature of 60 degrees Fahr. is maintained on coolant oils fed to grinding operations on two Thompson surface grinders to permit uninterruptetd production. Refrigeration is accomplished by Apfel Engineering Co. system which utilizes York self-contained cold well water cooler. Prior to installation, it was necessary to suspend operations after one or two hours because coolant temperature rose to 150 degrees Fahr. Cooler made by York Corp., 150 Roosevelt Ave., **York, Pa.**

▲ Mention Item NED-5910 when writing ▲

. . . but it's hard to beat any worker who drives AMERICAN PHILLIPS SCREWS

All there is to do with American Phillips Screws is: (1) insert the Phillips driver in the Phillips Recessed Screw head. (2) Aim the driver with one hand and hold the work with the other. (3) Screw is automatically driven up straight and flush . . . without any effort to keep it straight. There's no premium on skill and strength, as with slotted screws. And the result: Production is increased as much as *twice* where American Phillips Screws are used. And there are no scarred hands, no scarred work, no broken screw heads . . . because the Phillips driver *can't slip out.*

AMERICAN SCREW COMPANY
PROVIDENCE, RHODE ISLAND
Chicago: 589 E. Illinois Street
Detroit: 5-267 General Motors Bldg.

▲ Mention Item NED-5911 when writing ▲

WHAT IS MACHINERY'S No. 1 ESSENTIAL?

. . IT'S LUBRICATION OF THE RIGHT KIND that will keep production machines in good operating condition and continuously on the job. Idle machines due to worn bearings, gears or chains, caused by improper lubrications are certainly on the blacklist these days . . . and remember that machine replacement parts are most difficult to get. Yes—the No. 1 essential today is proper lubrication.

★ ★ ★

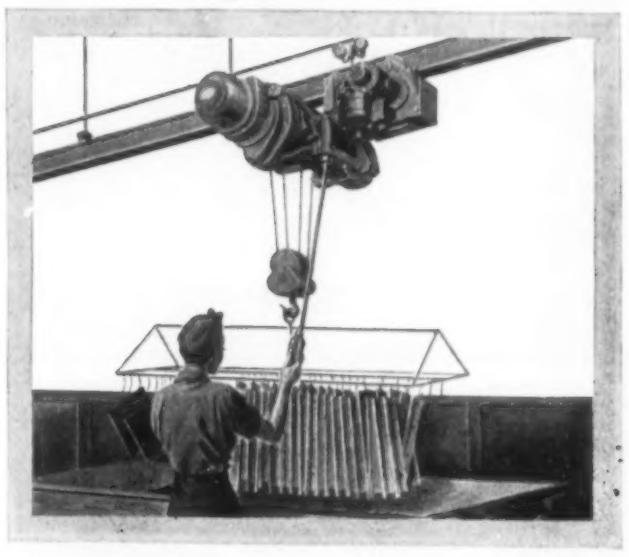
7 QUICK FACTS ABOUT LUBRIPLATE LUBRICANTS

1. LUBRIPLATE produces an ultra-smooth, wear-resisting bearing surface.
2. LUBRIPLATE reduces friction, thus lowering maintenance and power costs.
3. LUBRIPLATE resists rust, corrosion and pitting.
4. Most LUBRIPLATE products are white. LUBRIPLATE assures clean lubrication.
5. LUBRIPLATE outlasts ordinary lubricants many times.
6. LUBRIPLATE is economical—a little goes a long way.
7. LUBRIPLATE is available in fluid and grease types for every need.

LUBRIPLATE DIVISION
FISKE BROTHERS REFINING COMPANY
NEWARK, N. J. SINCE 1870 TOLEDO, O.
WRITE FOR THE NAME OF THE DEALER NEAR YOU

▲ Mention Item NED-5912 when writing ▲

Annie doesn't lift here anymore!

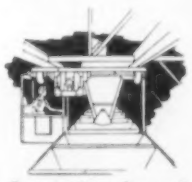


ANNIE J. . . . went to work in a war-busy factory, carrying hangers of metal parts from a nearby rack, suspending them in a cleansing bath. *Not heavy* work but it was *back-breaking toil,* because the first rods were ready to take out as soon as the next rods were put in. By mid-afternoon Annie just *had* to slow down. Anxious to help bring her man back home from war, yet there was nothing she could do about this production slump.

But management did something about it. One day men appeared to install a Louden handling system on the ceiling above her. When completed, her supervisor and a Louden engineer took her to the next department, where a loaded rack was waiting. They showed her how to operate the electric hoist to pick up the load, how to convey it overhead as she walked along with the control button in her hand, how to lower the entire rack of parts into the dipping tank, how to convey it to the next department. Today, Annie does what two men and another girl used to do . . . *faster, more efficiently* and *without any afternoon slow-down.* Annie doesn't lift here any more!

A Louden handling system enables women to take over jobs otherwise closed to them and speeds up handling, processing and assembly. It multiplies workers' capacity, releases them from mere physical labor for *productive* activities, builds up morale and removes one cause of absenteeism, is the soundest kind of investment, for today and the future. Learning about Louden may be one of the smartest steps you ever took. Write or wire today. The Louden Machinery Company, 5411 E. Superior Ave., Fairfield, Iowa.

Women can take over almost any factory job today with the help of Louden. But you will get a great deal more from men too, if you let Louden lift, lower, convey, process, store materials, parts and finished products.



A complete line of handling equipment, chain hoists, pushbutton and remote control units, cab-operated MotoVeyors, etc

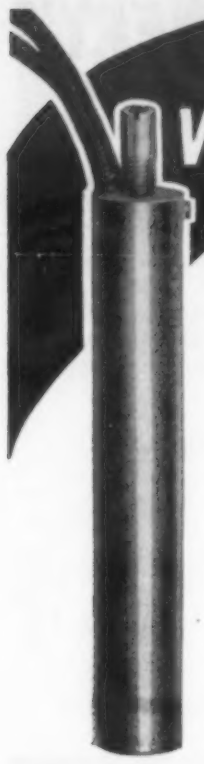
FREE
Materials Handling MANUAL

64 pages of facts, photographs, installations. How to handle all kinds of materials, in all kinds of plants. A wealth of man-, time-, space-saving methods. Write for free copy today.

LOUDEN OVERHEAD MATERIAL HANDLING SYSTEMS

Untangle Men, Machines, Manufacturing and Material Handling

▲ Mention Item NED-5913 when writing ▲



IT'S GOT WHAT IT TAKES

The Thermoswitch

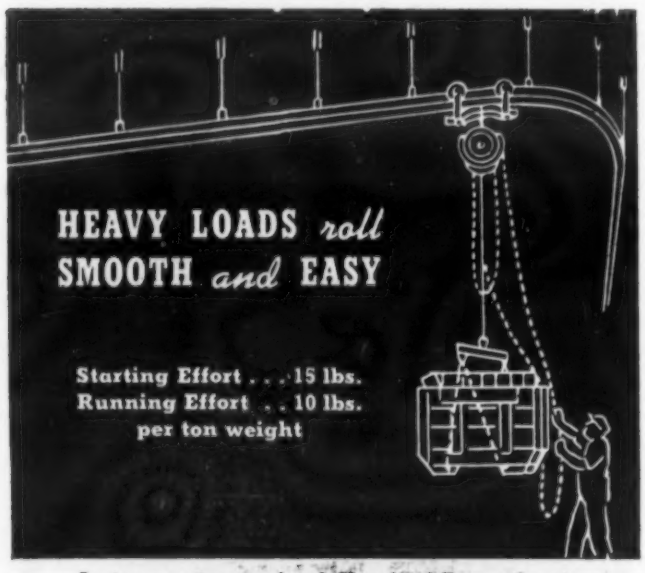
For Heat (and Cold) Control

1. PRECISION MANUFACTURED
2. GREATER SENSITIVITY
3. RUGGED — COMPACT
4. WIDER TEMPERATURE RANGE

Sensitive to changes 1/10°F. with range from minus 100°F. to plus 600°F. Designed to withstand vibration.

Fenwal INCORPORATED 70 MAIN ST. ASHLAND MASSACHUSETTS

▲ Mention Item NED-5914 when writing ▲



An inexpensive overhead Cleveland Tramrail system makes it an easy task to deliver heavy materials between machines or departments without intermediate handling. One man can move many tons with little effort. Cleveland Tramrail is built for every overhead materials handling purpose.

GET THIS BOOK! BOOKLET No. 2008 Packed with valuable information . . . Profusely illustrated.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
1143 East 283rd Street Wickliffe, Ohio

CLEVELAND TRAMRAIL

▲ Mention Item NED-5915 when writing ▲

SpeedWay

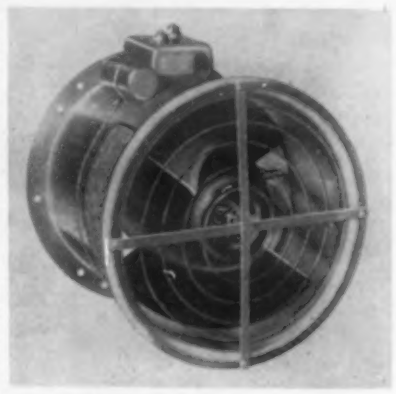
MORE DRILL for the Money

The last word in ½" capacity drills with every advanced feature. Powerful specially designed Universal Motor pours power thru triple reduction hardened steel gears. Forced air cooling prevents overheating. Housing is sturdy, light weight die casting. Self-aligning porous bronze bearings soak up oil like a sponge, release it slowly as bearing temperatures change. New type "In line" rear grip makes it natural to drill straight holes. One handle removable for close quarter drilling. Light weight (only 10¼ lbs.) means easy handling, yet it is so powerful that it will drill a ½" hole in iron with 500 lbs. weight on the bit. Jacobs key operated chuck. This is not a heavy duty production line tool, but it will give exceptional service to the garage man, maintenance man, contractor or installer.

SPEEDWAY MANUFACTURING COMPANY
1868 S. 52nd Avenue Cicero, Illinois

▲ Mention Item NED-5916 when writing ▲

HIGH PRESSURE FAN

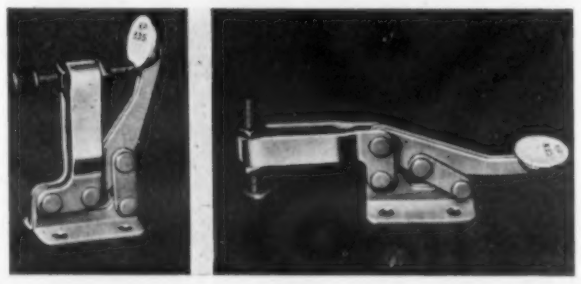


Designed as single, two-blade propeller unit for recirculation of air through gasoline combustion heaters for use on aircraft and fast boats, model 586-B high pressure axial flow fan delivers 320 cubic feet of air per minute against 2 inches water gage pressure. It is powered by 1/5-horsepower, series wound, 24-28-volt, direct current motor. Model 586-SCB, powered by ½-horsepower motor, has second propeller on extended shaft to deliver 25 per cent greater volume at 4-inch pressure. Another unit now in final stages of development will deliver 600 cubic feet of air per minute at 5 inches of pressure. Made by **Dynamic Air Engineering, Inc.**, 843 San Julian St., Los Angeles 14, Calif.

▲ Mention Item NED-5917 when writing ▲

TOGGLE CLAMP

Especially suited for table height operations, model KP 835 toggle clamp has U-shaped bar which provides for horizontal positioning of pressure spindle and permits clamping of many



different materials of varied thicknesses without disturbing original location of clamp. Both toggle bar and handle are in horizontal position when clamp is closed. Worker can assume natural position to manipulate handle and there is usually ample room above clamp to allow free swing of bar.

Clamp measures 6 inches in length when closed. It is cold rolled, cyanide hardened and cadmium plated. Spindle, with Neoprene pressure pad to protect smooth finished surfaces against mars, has adjustment range of 1¾ inches horizontally within channel of U-bar. Simple clamping action of handle will multiply to pressure of 550 pounds at pressure contact. Made by **Knu-Vise, Inc.**, 2200 Eighth St., Detroit, Mich.

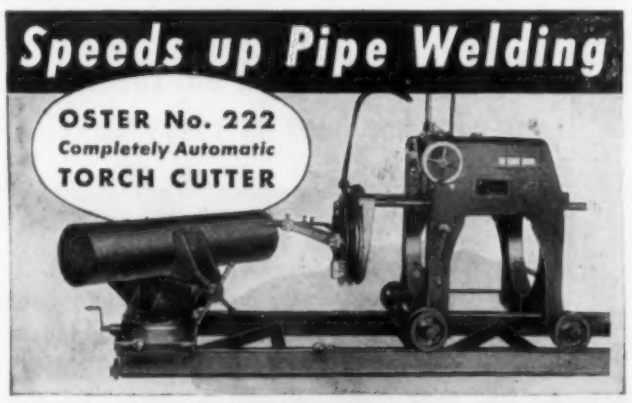
▲ Mention Item NED-5918 when writing ▲

DO YOU KNOW?

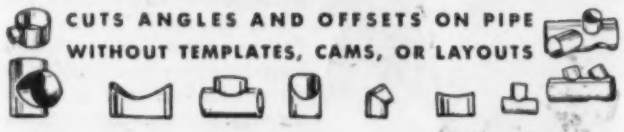
Lighting on underside work surfaces is increased 61 per cent and on vertical work surfaces, 20 per cent in aircraft and other war plants through use of white cement floors. Light reflecting qualities of white cement as compared with those of normal gray cement promote easier seeing and increase production. Full details available in 24-page illustrated booklet, "Light From Floors" issued by Universal Atlas Cement Co., Chrysler Bldg., 135 E. Forty-second St., New York, N. Y.

▲ Mention Item NED-5919 when writing ▲

Speeds up Pipe Welding



CUTS ANGLES AND OFFSETS ON PIPE WITHOUT TEMPLATES, CAMS, OR LAYOUTS



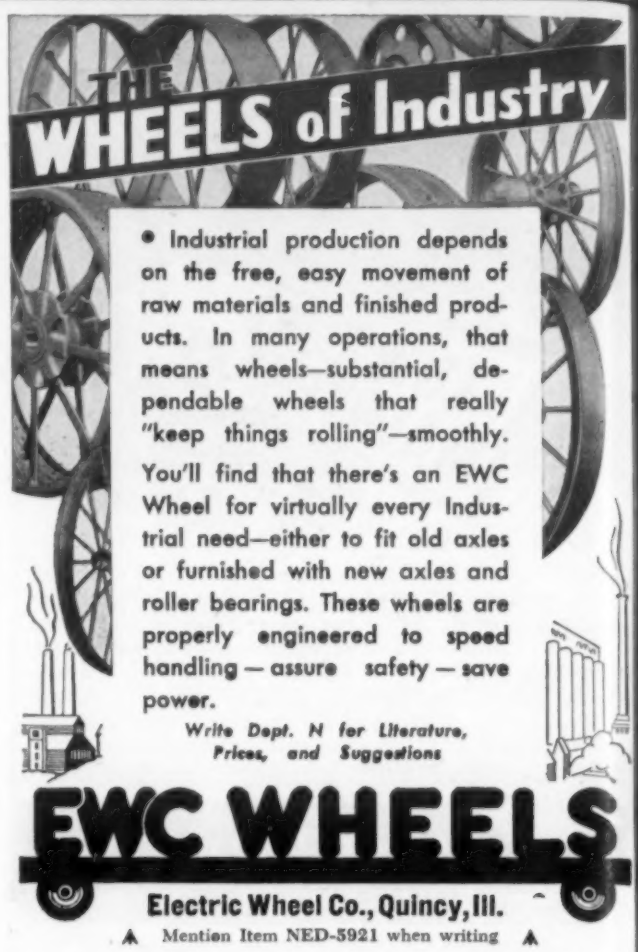
The No. 222 is a self-contained machine with generating mechanism to control the movement of an oxy-acetylene torch carrier for cutting angles and offsets on 2-1/2" to 12" pipe preparatory to welding. The machine is equipped with a swivel vise.

Every cut is beveled perfectly for welding with an edge as smooth as if cut with a lathe tool. More than 150 different cuts can be made with this machine. Simple to operate. Write for complete details.

THE OSTER MANUFACTURING COMPANY
2066 East 61st St. Cleveland, Ohio, U. S. A.

OSTER

▲ Mention Item NED-5920 when writing ▲



• Industrial production depends on the free, easy movement of raw materials and finished products. In many operations, that means wheels—substantial, dependable wheels that really "keep things rolling"—smoothly.

You'll find that there's an EWC Wheel for virtually every Industrial need—either to fit old axles or furnished with new axles and roller bearings. These wheels are properly engineered to speed handling — assure safety — save power.

Write Dept. N for Literature, Prices, and Suggestions

EWC WHEELS

Electric Wheel Co., Quincy, Ill.

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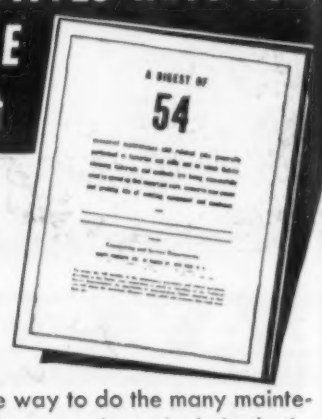
More Than 14,000

PLANT EXECUTIVES have sent for this FREE Oakite Digest



Have YOU Requested YOUR Copy?

TODAY there's only one way to do the many maintenance cleaning jobs in your plant. And that's the FASTEST, EASIEST way possible . . . the way that involves the least expenditure of urgently needed time and manpower. That's why you will want to read this newly revised enlarged, FOURTH EDITION of the OAKITE PLANT MAINTENANCE DIGEST . . . already requested by more than 14,000 factory superintendents, plant managers, shop foremen, safety directors and other executives responsible for maintenance work.

The Digest describes specialized Oakite materials and methods for facilitating and expediting 54 different, essential maintenance jobs. Among these are:

Stripping paint from metal parts
De-scaling water-cooled equipment
Cleaning and de-scaling surface condensers
Cleaning air conditioning equipment
Conditioning spray wash water in paint booths
Cleaning heat exchangers
AND 48 OTHER ESSENTIAL TASKS

Based on the successful experience of more than 1,000 plants, the information contained in this Digest is designed to HELP YOU conserve manpower, step-up efficiency, prolong life of existing equipment and machines, eliminate fire and other plant hazards. Write for YOUR copy TODAY! It's FREE for the asking!

OAKITE PRODUCTS, INC., 32G THAMES ST., NEW YORK 6, N. Y.
Technical Service Representatives in All Principal Cities of the United States and Canada

OAKITE MATERIALS · METHODS · SERVICE — Buy Bonds for Victory — CLEANING FOR EVERY CLEANING REQUIREMENT

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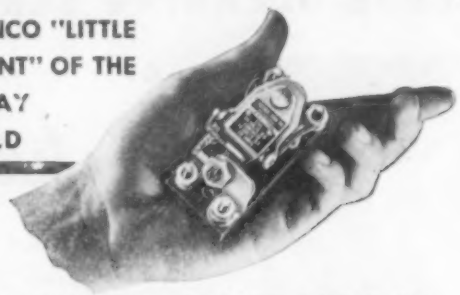
DUNCO "LITTLE GIANT" OF THE RELAY FIELD



CONTACT PRESSURE LIFTS 15 TIMES THE RELAY'S WEIGHT!

Ordinary relays weighing, say, one pound, may give a contact pressure of 3 or 4 ounces.

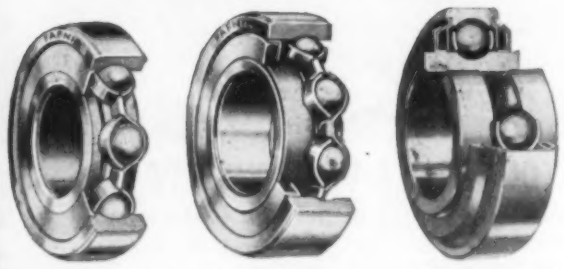
By comparison, the Struthers-Dunn Series 61 D.C. Relays give 7 *pounds contact pressure in a Relay weighing only 8 ounces!* Moreover, these famous Dunco "Nutcrackers" are especially designed to withstand shocks and vibration, and to operate without an enclosure in dirty or dusty places. Although designed for D.C. use, their contacts will also handle A.C. Write for your copy of the Dunco Catalog and Relay Data Book!

STRUTHERS-DUNN, Inc.
1321 ARCH STREET PHILADELPHIA, PA.

▲ Mention Item NED-5923 when writing ▲

The FIRST place to look for SEALED and SHIELDED Ball Bearings . . .

FAFNIR!

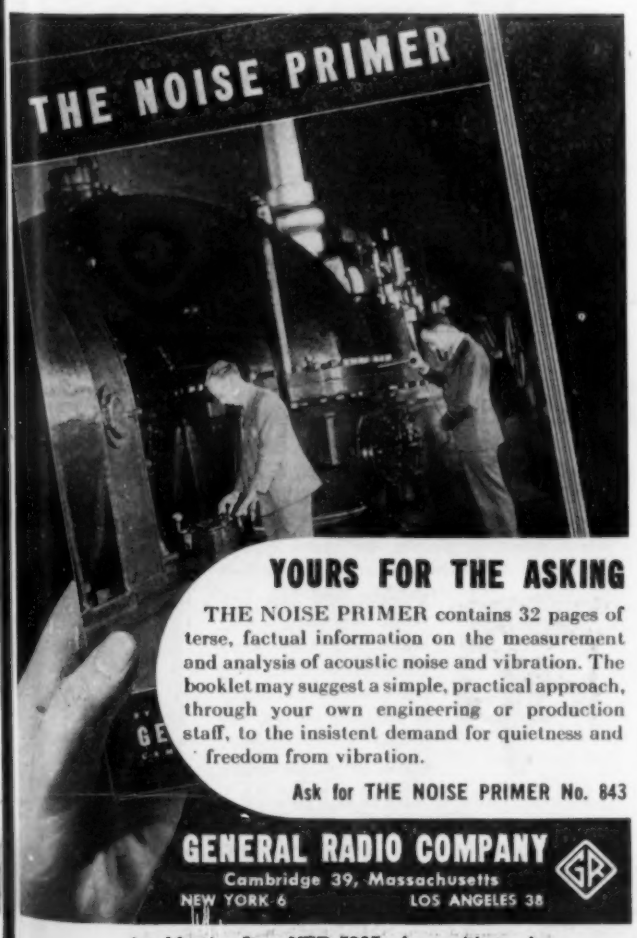


Grease Shield Type — Felt Seal Type — "Mechani-Seal"

Whatever your problem of keeping dirt out, grease in, Fafnir offers all types of shielded and sealed ball bearings. Unbiased recommendations will be made for the type of protected bearing best suited to your particular requirements. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR *Ball Bearings*
THE BALANCED LINE • • FOR ORDNANCE, AIRCRAFT AND INDUSTRIAL MACHINERY

▲ Mention Item NED-5924 when writing ▲



YOURS FOR THE ASKING

THE NOISE PRIMER contains 32 pages of terse, factual information on the measurement and analysis of acoustic noise and vibration. The booklet may suggest a simple, practical approach, through your own engineering or production staff, to the insistent demand for quietness and freedom from vibration.

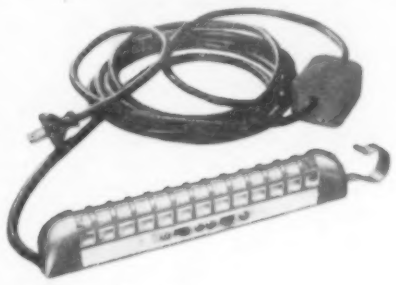
Ask for THE NOISE PRIMER No. 843

GENERAL RADIO COMPANY
Cambridge 39, Massachusetts
NEW YORK 6 LOS ANGELES 38

▲ Mention Item NED-5925 when writing ▲

PORTABLE FLUORESCENT UNIT

Adaptable to wide variety of production and maintenance operations, P-7 fluorescent extension cord unit has been improved in design to permit fast lamp change, and features rigid hanging hook riveted in rounded end cap and white Miracoat reflector to afford maximum light output. Small 6-watt fluorescent lamp provides adequate amount of cool, glare-free illumination for working in places which are difficult of access.



Reflector shields light source from user and eliminates danger of eye strain. Protecting grill prevents lamp and socket breakage. Small manual starting switch, 12-foot rubber covered cord, remotely mounted ballast and lightness in weight are additional features of this handy "trouble" lamp. It operates on 110 to 125-volt 60-cycle alternating current. Made by **Sylvania Electric Products, Inc.**, Fixture Div., Dept. RWS, Ipswich, Mass.

▲ Mention Item NED-5926 when writing ▲

SHIELDED ARC WELDING

Both manual and automatic arc welding equipment has been developed specifically for welding of magnesium, magnesium alloys, aluminum and other high strength light alloys under protective shield of helium gas. This equipment is claimed to make possible extended use in war production of lighter metals whose welding demands precise control of concentrated heat and protection of molten metal from oxidizing effect of oxygen in air.

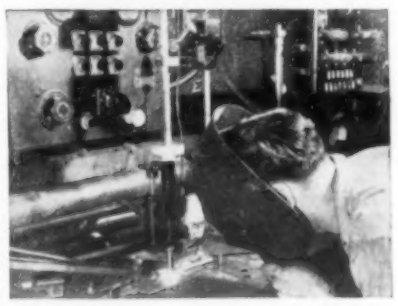


Illustration shows automatic unit in use at G-E welding laboratory welding magnesium plate. Completely automatic after preliminary adjustment, this equipment makes smooth, clean weld under shield of helium gas at rates up to 40 inches per minute on 1/8-inch stock. Similar to unit installed at plant of large magnesium producer, machine incorporates electronic motor control which enables equipment to hold proper arc length even while arc climbs and descends inclines such as those encountered in welding curved surface parts.

Filler metal is unreeled into work at correct angle through small nozzle rod at lower left of illustration. Tungsten electrode used to start and maintain arc extends through center of rod which is perpendicular to work. Helium gas is fed around electrode. Rate at which filler metal is fed can be adjusted to constant uniform feed into arc, or supplementary control can be used to feed wire into arc, withdraw it, and then feed it in again, all on predetermined cycle.

Basic element of manual unit is electrode holder which is arranged to hold either tungsten of carbon electrode, to conduct current to electrode and to surround electrode with stream of helium gas. Source of power for either manual or automatic unit is standard direct current arc welding machine. Made by **General Electric Co.**, Schenectady, N. Y.

▲ Mention Item NED-5927 when writing ▲

BAKER TRUCKS selected by Sherwin-Williams for model Chicago Warehouse

When Albert Kahn designed the huge new Chicago warehouse for Sherwin-Williams, his objective was the last word in practical efficiency.

Since all warehouse operations involve material handling, it is highly significant that Baker Trucks and Tractors were specified. Drag chain conveyors supplement the trucks to provide one of the most flexible mechanical handling systems of its kind.

Tiering cartons on pallets three high with Baker Fork Truck.

Horizontal storage on racks allows removal of single drums without disturbing drums above.

Box car or truck loading is speeded with Baker Truck.

FACTS AND FIGURES

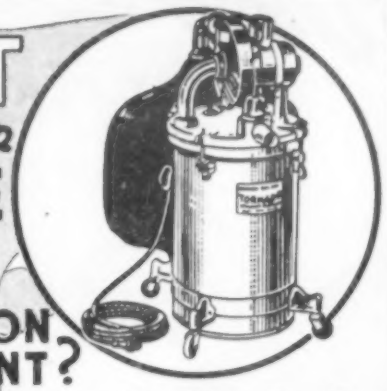
- Warehouse occupies space 288 x 624 ft.
- Has accommodations for 8 railroad cars and 20 highway trucks within building.
- More than 10,000 different items are received, sorted, stored, and shipped.
- Packages comprise 50 and 30 gal. drums, 5 gal. pails and a wide variety of smaller units in cartons.
- Smaller items alone arrive from production at rates up to 60 per minute.
- Handling equipment includes fork truck and pallets, tractor and trailers, and conveyors.

BAKER INDUSTRIAL TRUCK DIVISION of the Baker-Raulang Co.
2179 WEST 25th STREET • • • CLEVELAND, OHIO
3001-IE-43

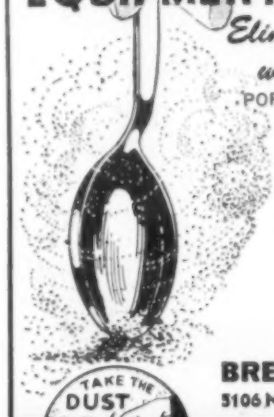
Baker INDUSTRIAL TRUCKS

▲ Mention Item NED-5928 when writing ▲

is DUST stirring up TROUBLE in your PRODUCTION EQUIPMENT?



Eliminate Trouble-making Dust with **TORNADO**
PORTABLE INDUSTRIAL VACUUM CLEANER



KEEP trouble-causing dust removed—so that it cannot damage motors and equipment. Use the TORNADO Portable Industrial Vacuum Cleaner. 1 h.p. G. E. motor. 49" waterlift, 175 c.f.m.

Keeps work-tables and production lanes cleared for action. Salvages valuable scrap, flux, etc. Powerful suction. Large capacity. Attachments for cleaning everything. *Investigate!*

Write for details and FREE TRIAL OFFER

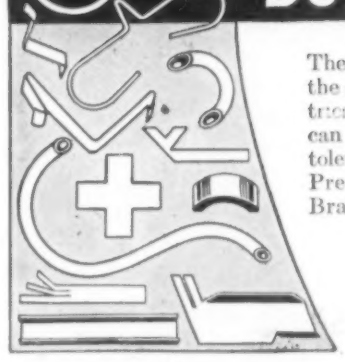
BREUER ELECTRIC MFG. CO.
5106 N. RAVENSWOOD AVE., CHICAGO, ILL.

TAKE THE DUST OUT OF DUSTY INDUSTRY

with BREUER'S BALL BEARING **TORNADO** PORTABLE INDUSTRIAL VACUUM CLEANER

▲ Mention Item NED-5929 when writing ▲

DIE-LESS DUPLICATING



The parts shown are typical of the great variety of simple or intricate forms and shapes which can be quickly duplicated to a tolerance of .001" with DI-ACRO Precision Machines—Shears, Brakes, Benders. For experimental and research work or production runs, DI-ACRO Units form angle, channel, tube, rod, moulding, wire, strip stock; shear stock sheets, trim duplicated stampings. With DIE-LESS DUPLICATING, Man Hours and Critical Materials are saved. Send for 32-page Catalog—"METAL DUPLICATING WITHOUT DIES".

O'NEIL-IRWIN DI-ACRO PRECISION MACHINES MFG. CO.
354 EIGHTH AVE. SOUTH • MINNEAPOLIS 15, MINN.

▲ Mention Item NED-5930 when writing ▲

WISCONSIN *Air-Cooled* ENGINES

Check for **SIZE and POWER ON YOUR EQUIPMENT**

If you are interested in engines . . . either "on the board" for post-war equipment, or "on the job" for immediate applications . . . you can't go far wrong if you include Wisconsin air-cooled engines in your specifications.

The Model VE-4, dimensionally illustrated above, is a typical example of the extremely compact power packages that carry the Wisconsin name plate. This 4-cylinder engine delivers 22 hp. at 2600 rpm. Other Wisconsin sizes run from 1 hp. to 31 hp. Check for Size and Power on your equipment.

Most H.P. per pound

WISCONSIN MOTOR Corporation
MILWAUKEE 14, WISCONSIN, U. S. A.
World's Largest Builders of Heavy-Duty Air-Cooled Engines

▲ Mention Item NED-5931 when writing ▲

Downs

SAFETY PLATE GRIPS

Downs Safety Plate Grips will hold with a positive grip in *any* position. Ideal for lifting or laying material in a horizontal position or for turning plates over without the slightest danger of the grip letting go. Will not damage finished surfaces—easily operated by one man. Available for various plate thicknesses up to 6" and ½ to 10 ton capacities. Write today for specifications.

DOWNS CRANE & HOIST CO.
540 West Vernon Ave. • Los Angeles, Calif.

▲ Mention Item NED-5932 when writing ▲

★ ★

They also Serve

WHO FIGHT THIS WAR AT HOME

★ Frankly, we at Udylite have been too busy fighting this fight for Victory in our own remote way to do much bragging about it.

Udylite's products and services are practically unknown to the man on the street, the housewife or our boys and girls in the service.

In spite of this obscurity there are few pieces of fighting equipment today where metal finishing and corrosion resistance are necessary that have not benefited by the efforts of Udylite's army of employees—the years of intensive research for better methods and the high standard of dependability for which Udylite is known.

Udylite's men and women are part of this fight. The fruits of their labors are of vital importance to the fighting equipment of every branch of the service. Their knowledge and efforts have helped give our boys better fighting tools than the enemy.

To those of our customers who have so graciously "taken second" to vital government requirements on our services we extend our sincere thanks and the hope that we may soon again render them typical Udylite service.

L. K. Lindahl
PRESIDENT

THE UDYLITE CORPORATION
1651 East Grand Blvd., Detroit, Mich.
★ OUR BOND QUOTA IS OVERSUBSCRIBED—IS YOURS? ★

▲ Mention Item NED-5933 when writing ▲

ABRASIVE CUT-OFF MACHINE

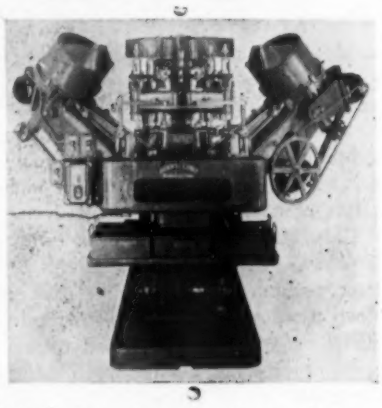
Designed as companion machine for larger model, No. 47W Abrasaw abrasive cut-off machine may be used for production cutting of solids ranging up to 1 inch in diameter or tubing and light sections up to 2 inches in size. All parts are ruggedly constructed so as to eliminate vibration and give accurate cuts. Wet cutting as performed eliminates burning and surface hardening, as well as reducing or minimizing burring and disc wear.

Base is single casting which permits use of large integral coolant tank with coolant pump mounted on rear of machine. Automatic coolant control is standard equipment. Hand coolant control can be supplied for laboratory work and similar applications where speed of production is not important.

Vises can be furnished for straight cuts only or in combination straight and angle type. Vise for straight cuts can be arranged for foot operation at small additional cost. Abrasive discs ranging up to 12 inches in diameter and 1/16 to ¼-inch thick are driven through multiple V-belts by 5-horsepower ball bearing drip-proof motor. Spindle is ball bearing equipped. Coolant pump is powered by ¼-horsepower motor. Made by **The Bridgeport Safety Emery Wheel Co.**, 1305 W. Broad St., Bridgeport, Conn.

▲ Mention Item NED-5934 when writing ▲

AUTOMATIC NUT TAPPER



Fully automatic in operation, this nut tapping machine delivers four nuts simultaneously to four tapping stations by means of two hopper feeding mechanisms, each equipped with two adjustable chutes. After tapping, each nut is discharged to its individual collecting box so that the product of each spindle may be gaged prior to delivery to stock. If desired, two sizes of nuts can be run simultaneously. Each spindle carries its own compensator which allows tap to follow its own lead.

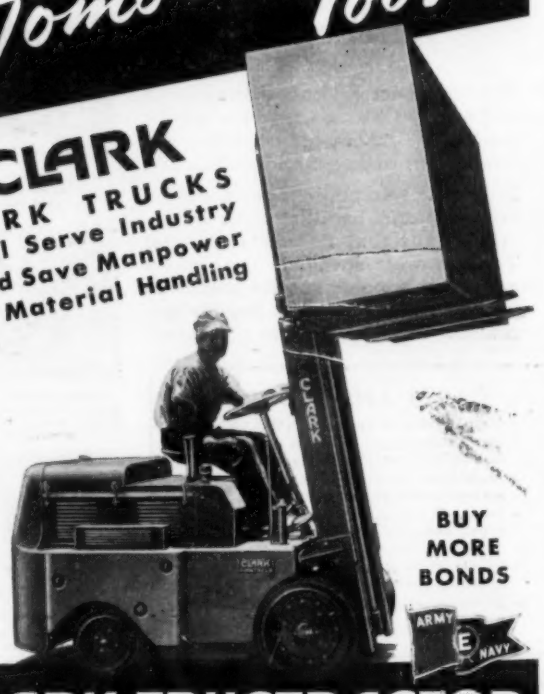
Spindle drive is through positively geared and timed train of gears, eliminating distortion or tearing of threads in tapped hole. Standard machines are available for handling nuts up to ¼-inch-28 and for nuts up to ½-inch-20. Both models may be factory-adapted to include countersinking and tapping; or drilling, counterboring and tapping by addition of suitable automatic indexing dial. When components are feedable by hopper, battery of machines may be attended by single operator.

Production depends upon size of nut handled. Number 10/32 nut of X1335 steel can be tapped at rate of 160 per minute on smaller machine. Made by **The Bodine Corp.**, 317 Mountain Grove St., Bridgeport, Conn.

▲ Mention Item NED-5935 when writing ▲

Tomorrow Too!

CLARK FORK TRUCKS will Serve Industry and Save Manpower in Material Handling



BUY MORE BONDS

ARMY E NAVY

CLARK TRUCTRACTOR
DIVISION OF CLARK EQUIPMENT COMPANY
BATTLE CREEK, MICHIGAN, U.S.A.

▲ Mention Item NED-5936 when writing ▲

FLOOR CLEANING SERVICE

BY

Fisher

...KEEPING FLOORS CLEAN IS OUR JOB!

● "Fisher Service" offers you more than just selling you a sweeping compound.

"Fisher Service" means analyzing the floor conditions and furnishing just the *right* compound "tailored" to meet your specific needs.

All we need to know is whether you are troubled with oil or water. Is the oil vegetable or mineral? Is the floor surface normally smooth or rough? Are there any other conditions we should have to specify a particular mixture for your individual job?

We will furnish a compound mixed to suit your conditions which will keep your floor clean, eliminate oil or water and guaranteed to keep down the dust and remove the hazard of slippery floors.

May we "prescribe" for you?—Write today to

FISHER EQUIPMENT COMPANY
6315 Ellsworth Ave. Detroit 21, Mich.

▲ Mention Item NED-5937 when writing ▲

IF YOU HAVE A VIBRATION PROBLEM...

Originally developed for use in aviation, where loose fastenings can not be permitted in spite of severest vibration, Boots Self-Locking Nuts provide a simple solution *wherever* there is a fastening problem. Boots Nuts *can't* work loose.

One-piece, all metal, Boots have these important advantages over all other nuts:

1. Greater re-usability in maintenance.
2. Proof against corrosive action of oil, water, or chemicals.
3. Resistance to high temperature.

Boots Nuts meet the exacting specifications of all government aviation agencies.

There's a BOOTS NUT for every application

ROL-TOP BOOTS ANCHOR
BOOTS AIRCRAFT NUT CORPORATION
GENERAL OFFICES, NEW CANAAN, CONNECTICUT

▲ Mention Item NED-5938 when writing ▲

Made for PRECISION ACCURACY

Smith MASTER SURFACE PLATES

Every Smith Surface Plate is a true master plate -- with precision lapped surface, relieved by hand flaking to provide the maximum number of uniform bearing points to meet gauge makers' requirements and to prevent gauges and the like from "freezing". Aircraft and Ordnance plants, demanding the greatest accuracy in surface plates, re-order many times.

Write for new descriptive literature.

SMITH TOOL & ENGINEERING CO.
Precision Measuring Equipment
654 N. WINGERT ST. BUCYRUS, OHIO

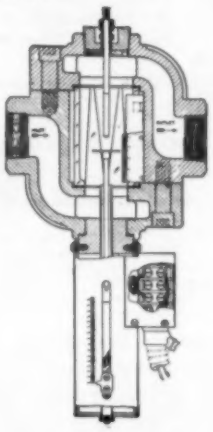
AVAILABLE SIZES
8 x 12
9 x 14
12 x 18
18 x 18
18 x 24
24 x 24
20 x 30
24 x 36
30 x 36
30 x 60
36 x 68
OTHER SIZES MADE TO ORDER

PROMPT DELIVERY ON STANDARD SIZES

▲ Mention Item NED-5939 when writing ▲

New Flow Alarm . . .
positive . . . inexpensive

The float in the Rota-Sight alarm moves up or down in direct proportion to flow rate changes. At any points you may choose in the flow range it will operate an electrical switch to light an electric lamp to sound an alarm, or to stop or start electrical equipment. Positive . . . accurate . . . dependable. Cast in all metals from ¼" size and up. Available also without the alarm attachment as a flow rate indicator. Send for bulletin 92-A which gives the interesting details. Fisher and Porter Company, 2811 County Line Road, Hatboro, Pa.



▲ Mention Item NED-5940 when writing ▲

Bunting
BRONZE BUSHINGS • BEARINGS • PRECISION BRONZE BARS

▲ Mention Item NED-5941 when writing ▲

Night and Day

PRODUCTIMETERS
are counting Production for Victory!

Reliable production control means the difference between uneconomical and *profitable operation* . . . between haphazard methods and *intense* use of valuable man-hours. Your machines can serve *better* if equipped with Productimeters! Whether it's counting parts or finished units, measuring cable for Signal Corps use, cloth for parachutes, plywood for planes . . . Productimeters faithfully guard production, check losses, eliminate errors. In 95% of counting applications, a standard style and model will meet the requirements.

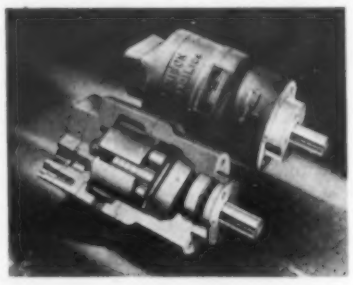
If you have a counting problem, write us. Our recommendations are backed by 64 years' experience in the exclusive manufacture of counting and measuring devices.

Catalog No. 100 on request!

DURANT MANUFACTURING CO.
1922 N. Buffum Street, Milwaukee, Wis. — 178A Eddy Street, Providence, R. I.

▲ Mention Item NED-5942 when writing ▲

HYDRAULIC POWER UNIT



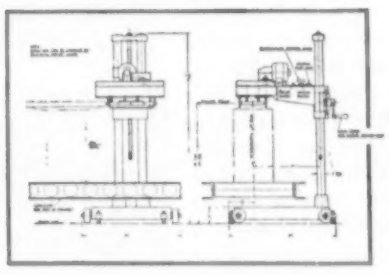
Capable of withstanding constant shock loads, loads caused by rapid acceleration and deceleration, sudden stopping and braking and rapid reversal of equipment rotating at high speeds, this HydrOILic fluid motor will deliver rotating power in either direction at almost infinite number of speeds within operating range. Motors can be stopped, started or reversed abruptly; operated intermittently or continuously and stalled repeatedly without damage to working parts.

Motors provide maximum efficiency wherever rotary oil hydraulic power is indicated, whether power is transmitted through gears or pulleys or is direct connected. Unit operates on axial piston principle and design includes no mechanical linkages or universal type drive rods which would break under sudden stops, starts or reverses. Positive displacement is employed, with direct connection and constant contact between driving and driven elements.

Actual running torque is estimated at 95 per cent of theoretical torque and stalled torque is 85 per cent of running torque. Unit may be mounted in any position. Model MA-15-CP produces torque of 135 inch-pounds under maximum operating pressure of 1000 pounds per square inch. Recommended operating speeds are 100 to 1800 revolutions per minute. Motors in other sizes, speeds and capacities are available. Made by **The Denison Engineering Co.**, 1152 Dublin Rd., Columbus 16, O.

▲ Mention Item NED-5943 when writing ▲

BAG SEALING MACHINE



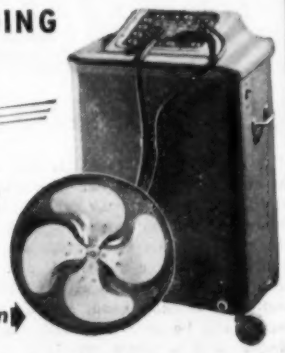
When rolled under standard gravity conveyor in production line, this Pliofilm sealing machine affords high speed, effective method of sealing moistureproof bags made of heat-sealing materials. Jacks lift machine off casters when in operating position. As bags containing parts move along conveyor, top edge of each is fed through sealing rollers. Leading pair of pressure rollers is rubber covered and smooths out material. Next two pair of rollers are heated to effect weld. Last pair of rollers is rubber covered to complete seal.

Speed of rollers is fixed at 9 feet per minute. Head on which sealing unit is mounted is easily adjusted for height. Maximum height of sealing edge of bag is 41 inches above floor, minimum is 19 inches. Overhang permits sealing rollers to be centered over packages up to 30-inch maximum width.

Temperature control assures strong seal without danger of overheating. Small gear motor for driving rolls, motor switch, heater switch, pilot control and temperature control are mounted conveniently on top of machine. Direction of rolls may be reversed by changing motor leads, permitting bags to be fed from either side. Made by **Package Machinery Co.**, 134 Birnie Ave., Springfield 7, Mass.

▲ Mention Item NED-5944 when writing ▲

CONTINUOUS WELDING NOW JUST A BREEZE



New Ergolyte A.C. Arc Welder
Especially built for
Continuous War Time Duty
Air Cooled by Powerful Fan

Our fighting men need the stuff. They can't wait while naturally cooled machines "cool down". That's why we built into the new Ergolyte 250F a powerful cooling fan, added extra-heavy insulation. Avoid time delays, danger from burning out due to heat stress. Speed up war work. Make your next welding machine an Ergolyte 250F. Write for information today.

SPECIFICATIONS
Current Range: 15 250 Amp. Input Voltage: 230-460 Volts. Frequency: 60 cycles or to order. Phase: Single or operates on one phase of 2 or 3 phase current. Electrode size Range: 1/16"—3/16". Heat Steps: 24. Size: 18" x 13¼", height 31½". Weight: 215 lbs.

GUARANTEED ONE YEAR

ERGOLYTE MANUFACTURING COMPANY
3627 NORTH LAWRENCE STREET, PHILADELPHIA, PENNA.

▲ Mention Item NED-5945 when writing ▲

Our Soldiers Will Take The Risks . . .

Our fighting men will gladly risk their lives for Freedom. All they ask of us back home is that we send them the guns, shells and equipment—and send it *fast*. They'll do the rest. So let's keep production zooming! Let's give them all we've got—every day, every hour!

THE GARLOCK PACKING CO.
PALMYRA, NEW YORK

In Canada: The Garlock Packing Company of Canada Limited, Montreal, Que.

GARLOCK

▲ Mention Item NED-5946 when writing ▲

GEARS... GUNS... AND MEN!

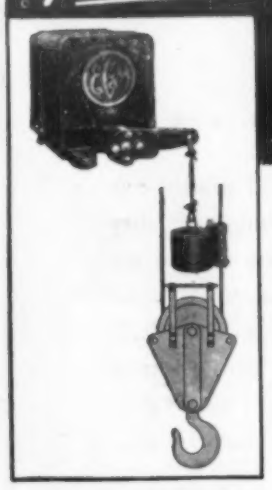
Today's victories of our armed forces are the result of their superior fire power on land and sea . . . and in the air — a superiority attained by design engineers working in conjunction with the army and navy ordnance departments. Victory and success depend on gun calibre and range . . . also its maneuverability and the clock-like precision of the firing mechanisms. . . . D.O.James precision-made gears are important controlling factors in attaining the maximum fire power and efficiency of many of the guns now being so successfully used by our armed forces. . . . Accurately conforming to these design requirements has been an every-day "must" in our organization for over 55 years in the design, engineering and manufacture of all types of gears and gear speed reducers.

D.O.James
ESTABLISHED 1888

D.O.JAMES MANUFACTURING CO.
1140 W. Monroe St., Chicago, U.S.A.

▲ Mention Item NED-5947 when writing ▲

Protects Men
YOUNGSTOWN SAFETY LIMIT STOP Aids PRODUCTION



For use on both old and new cranes . . . alternating or direct current.

SINCE this Limit Stop is operated directly by the hook block, it not only disconnects the motor from the line, but brings it to a quick stop. Over-hoisting accidents cannot happen to cranes thus equipped.

Moreover, the Limit Stop, by removing the mental hazard of an accident, results in a definite aid in production. An important fact, particularly in these days of increased activity.

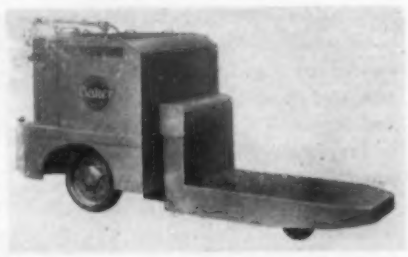
Ask for Bulletin 1035-C

THE ELECTRIC CONTROLLER & MFG. CO.
CLEVELAND, OHIO

BRAKES MAGNETS LIMIT-STOPS MOTOR-CONTROL

▲ Mention Item NED-5948 when writing ▲

INDUSTRIAL POWER TRUCK



Having capacity of 6000 pounds, model E-3 low-lift industrial power truck has 11-inch high platform measuring 26½ inches wide by 54 inches long with vertical lift of 6 inches. Simplicity, accessibility and ruggedness of construction are claimed features. All units are totally enclosed.

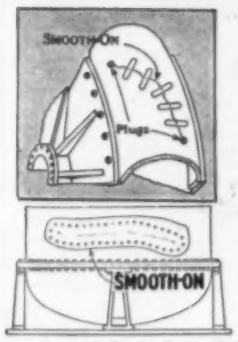
Controls are conveniently grouped. Steering operates on all four wheels, being actuated by horizontal tiller handle and permitting truck to operate in intersecting aisles 67 inches wide. Power compartment will accommodate ample battery capacity for abnormal operating conditions. Speed is 4½ miles per hour with full load and 6 miles per hour empty on level floor.

Travel is controlled through No-Plug controller which affords three speeds forward and reverse. Safety features are incorporated in controls to prevent accidental starting. Elevating power is imparted to ball bearing mounted platform by single hydraulic jack with travel being compounded through sprockets and roller chains.

All controls are grouped in control panel in front of operator and cover is readily removed for maintenance. Single reduction worm drive imparts power to driving axle. Totally enclosed ball bearing motors with overload capacity of 300 per cent are used. Made by The Baker-Raulang Co., Baker Industrial Truck Div., 2179 W. Twenty-fifth St., Cleveland 13, O.

▲ Mention Item NED-5951 when writing ▲

HOW TO REPAIR
WHAT YOU CAN'T REPLACE



Today, you must repair many breaks, cracks and holes in plant equipment, apparatus, piping, etc., that would be replaced in ordinary times.

With SMOOTH-ON No. 1 you can do such jobs quickly, securely and at low cost. No heat or dismantling of equipment are necessary, and the repair is lasting. Engineers and maintenance men have successfully used SMOOTH-ON for 48 years, and wartime conditions make this many-purpose iron repair cement more necessary now than ever before in every plant.

Buy Smooth-On in 7-oz., 1 lb., 5 lb. or larger containers from your supply house or if necessary from us. For your protection, insist on Smooth-On—used by engineers since 1895.

SMOOTH-ON CEMENTS
for the Motor Car and Boat, Home, Factory and Power Plant

FREE 40-Page Handbook

170 Diagrams and concise simple instructions for ingenious practical repairs to plant equipment and structures. The suggestions in this helpful manual will frequently save much valuable time and avoid the replacement of costly apparatus. Every engineer and maintenance man should have a copy. Sent FREE on request.

Smooth-On Mfg. Co., Dept. 10
570 Communipaw Ave. Jersey City 4, N. J.

Do it with **SMOOTH-ON**

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"UTILITY"
BLAST CLEANING CABINET

NO EXCUSE NOW for any plant, having a minimum or occasional need for blast cleaning, to be without this Pangborn "UTILITY" Cabinet. Here is an extremely practical, extremely low priced unit, large enough to take work of considerable size, that produces work equal to larger, more costly equipment.

Ideal for small castings, forgings, stampings, heat treated parts and work of like nature. Also plastics, such as electric push plates, typewriter bars, etc., can be given a final matte finish.

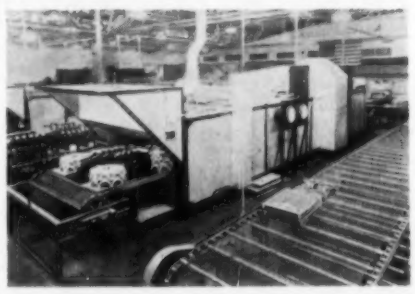
Self contained, automatic, shipped fully assembled. Write today for Bulletin and prices.

PANGBORN
WORLD'S LARGEST MANUFACTURER OF BLAST CLEANING AND DUST CONTROL EQUIPMENT

PANGBORN CORPORATION • HAGERSTOWN, MD.

▲ Mention Item NED-5949 when writing ▲

PAINT BAKING OVEN



Equipment of varied size, shape and weight is readily handled on this continuous conveyor type oven for baking paint on aluminum alloy parts which are used in aircraft. Insulated dual panel oven houses flat screen conveyor measuring 40 feet long by 5 feet wide. Belt is supported on cross flights fitted into heavy roller chain driven oven sprockets. Conveyor is driven by motor through speed reducer and variable speed drive.

Heated air at 150 to 225 degrees Fahr. is supplied to fuming or exhaust zone in sufficient volume to volatize paint solvents. Baking zone is heated by electric heating elements to 350 degrees Fahr. with uniform air circulation over heaters, through conveyor and work to recirculating fan mounted on oven roof. Temperatures are held within close limits by automatic indicating and recording controllers. Protection is provided by safety switches for shutting off heating and motor circuits in event of power or fan failure.

Return roller chain conveyor is located at side of oven proper for returning to loading end, base plates or holders on which parts were carried through baking process. High production rates are possible with minimum of attendance except for loading and unloading parts. Made by The Gehnrich Corp., Long Island City, N. Y.

▲ Mention Item NED-5952 when writing ▲

Get GAST Recommendations for Your SPECIAL PUMPS
★ VACUUM AND PRESSURE

TYPICAL APPLICATIONS . . . . of Gast Engineered-to-the-job Pumps

VACUUM
Refining lubricating oils • Operating automatic chucks on machine tools • Testing instruments • Operating milking machines • Paper feeding, printing-presses.

PRESSURE
Industrial oil burners • Spraying paint or chemicals • Atomization of liquids • Generating cooking gas from liquid fuels—and many hundreds more.

A typical heavy duty application: Gast Rotary (Model 25FF70) used as a vacuum brake "booster" with shovel, crane or drag line.

BENEFIT BY GAST ENGINEERING EXPERIENCE

● Manufacturers who bring their pump problems to us find Gast engineered-to-the-job pumps step up performance, reduce operating troubles and increase output. The unique Gast Rotary design provides a more efficient, lower cost operating unit, specially designed for your machine and embodying these features: 1-Smooth, non-pulsating steady flow of air. 2-Forced-Air-Cooling, supplying greater air volume without complicated water systems. 3-Automatic Take-Up, which compensates for wear. 4-Compact design, saving space and weight.

COMPLETE LINE *includes 12 sizes, Gast Rotary Air Pumps, ½ to 23 C.F.M. Vacuum to 28". Pressures up to 30 lbs.*

Send for catalog containing specifications, engineering data and performance tables

GAST ROTARY AIR PUMPS

GAST MFG. CORP.
115 Hinkley St.
Benton Harbor, Mich.

▲ Mention Item NED-5955 when writing ▲

DIE CASTINGS
ZINC or ALUMINUM

We now have additional capacity in our new, modern plant available for greater production of zinc and aluminum die castings. Highest quality. Good deliveries—on schedule. Send prints or samples for quotation.

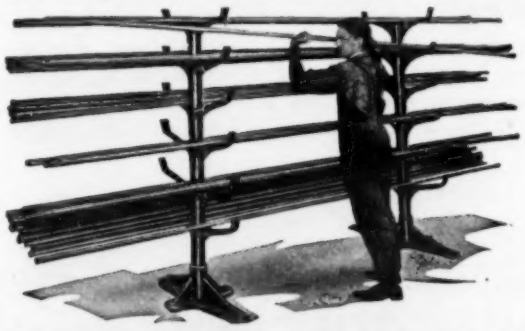
CONGRESS DIE CASTING DIV.
CONGRESS TOOL & DIE CO.
3752 East Outer Drive Detroit 12, Mich.

▲ Mention Item NED-5950 when writing ▲

TO PREVENT-
LOSS OF TIME AND LABOR

The BROWN SECTIONAL RACK saves the time previously lost in end-hauling each bar of stock its entire length from the old-style, closed-side Rack, the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in gold-fish visibility for instant selection. Workmen waiting for stock are served without waste of time. It is a simple durable article built in 5 styles of standard metal sections. It can't burn, sag, or twist. Unattached to the building, it can be moved at will. Increases in stock can be met by simply adding more standard sections. Depreciation is practically nil. SEND FOR BULLETIN No. 26-D DESCRIBING:—

THE BROWN SECTIONAL RACK



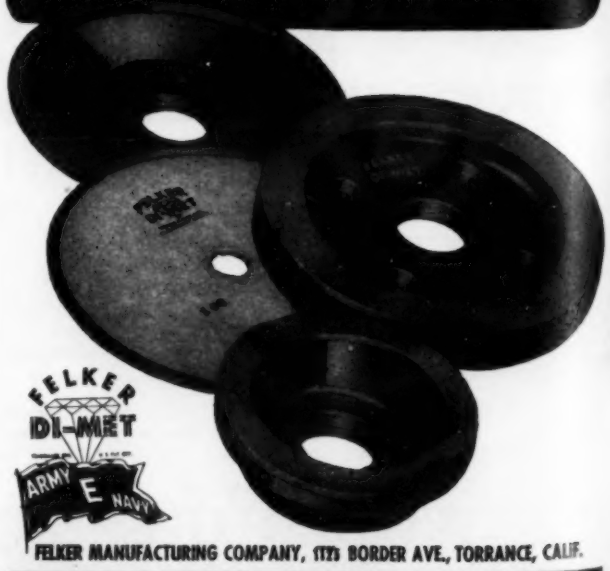
BROWN ENGINEERING CO. 129 N. THIRD ST. READING, PA.

▲ Mention Item NED-5953 when writing ▲

Wherever Carbide Tools are used

DI-MET DIAMOND ABRASIVE WHEELS
Keep them cutting at their best!

Made in all standard types through 6" in diameter in diamond concentrations and grit sizes suited to your individual needs.



FELKER DI-MET ARMY E NAVY

FELKER MANUFACTURING COMPANY, 1173 BORDER AVE., TORRANCE, CALIF.
MANUFACTURERS OF DIAMOND ABRASIVE WHEELS

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ARE YOUR MEN WORKING for an ARMY-NAVY "E"?

Is your production up where you want it?

How will your Army-Navy inspector answer the "E" Nominating Questionnaire regarding "production vs. capacity" and "production vs. schedules"?

Have you a bottleneck in the department where you dip or spray heated compounds?

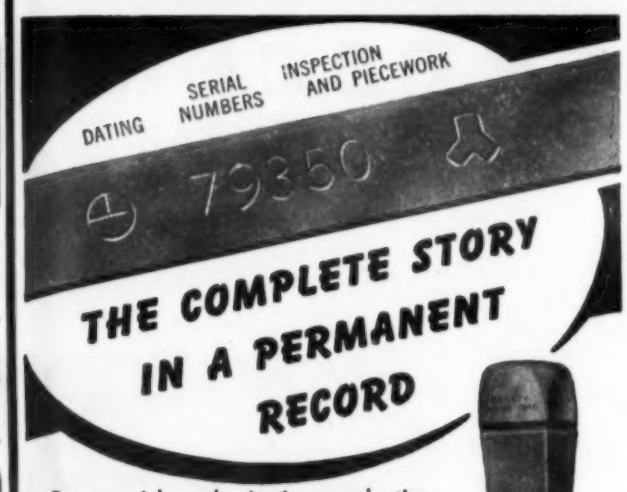
To maintain the ideal working temperature for compounds, waxes, glue, asphalt, solder, resins or paint, hold heat and convey them in Sta-Warm electrically heated tanks and hose engineered to your requirements. Pour them from Sta-Warm heated pouring pots.

You will find Sta-Warm tanks, kettles and compound heating equipment are dependable, trouble-free . . . they permit you to forget heating problems and reserve your best worrying technique for other parts of your plant operations.

Inquire today, outlining your requirements.

STA-WARM ELECTRIC CO.
130 N. CHESTNUT ST. • RAVENNA, OHIO

▲ Mention Item NED-5957 when writing ▲



THE COMPLETE STORY IN A PERMANENT RECORD

For a quick authoritative production story, Safety Steel Symbols give permanent coding.

Safety Symbol Stamps are available with either our patented, perfectly-balanced "Safety" Wedge grip blank or with straight side Safety blank. Both stamps in Safety Steel that neither spall nor mushroom.

"SAFETY" WEDGE GRIP STYLE

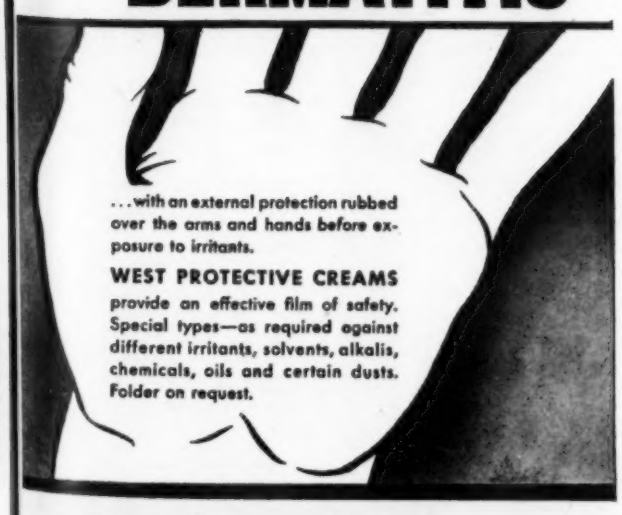
•

Write for data!

M.E. CUNNINGHAM CO.
SAFETY STEEL STAMPS
151 E. Carson St., Pgh., Pa.

▲ Mention Item NED-5958 when writing ▲

Guard Against DERMATITIS



. . . with an external protection rubbed over the arms and hands before exposure to irritants.

WEST PROTECTIVE CREAMS provide an effective film of safety. Special types—as required against different irritants, solvents, alkalis, chemicals, oils and certain dusts. Folder on request.

WEST DISINFECTING Company
42-16 WEST STREET • LONG ISLAND CITY • N. Y. • DEPT. DE

▲ Mention Item NED-5959 when writing ▲

COMBUSTION ANALYZER

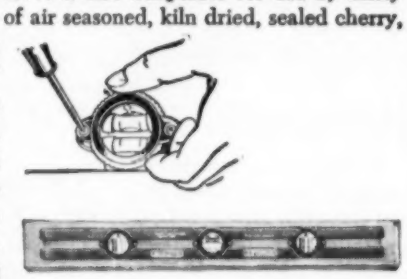
Designed for use in conjunction with standard Firite carbon dioxide analyzer or any standard Orsat instrument, illustrated Fire Efficiency Finder operates on slide rule principle.

When carbon dioxide percentage in flue gas has been determined, pointer of calculator is moved to corresponding figure on scale. Slide is moved until figure obtained by testing stack temperature shows in upper right-hand corner. Performance of furnace is shown in slotted arrow, one figure representing heating efficiency and other per cent of total heat loss. Made by **Bacharach Industrial Instrument Co.**, Murtland Ave., Pittsburgh, Pa.

▲ Mention Item NED-5960 when writing ▲

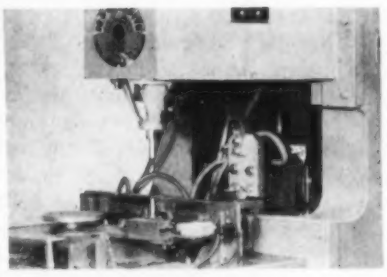
ADJUSTABLE LEVEL

Though originally designed for use by shipbuilders and shipfitters, this Red Glass level is also adaptable for use by many other craftsmen. Made of air seasoned, kiln dried, sealed cherry, tool is equipped with green "cat's eye" glasses for many jobs requiring level and plumb, as well as red glasses for quick declivity readings up to 2 inches to the foot. Glasses may be set in pairs to any degree in circle. Level case parts are replaceable for repair. List Price is $4.50. Made by **Stanley Tools Div.**, The Stanley Works, 104 Elm St., New Britain, Conn.



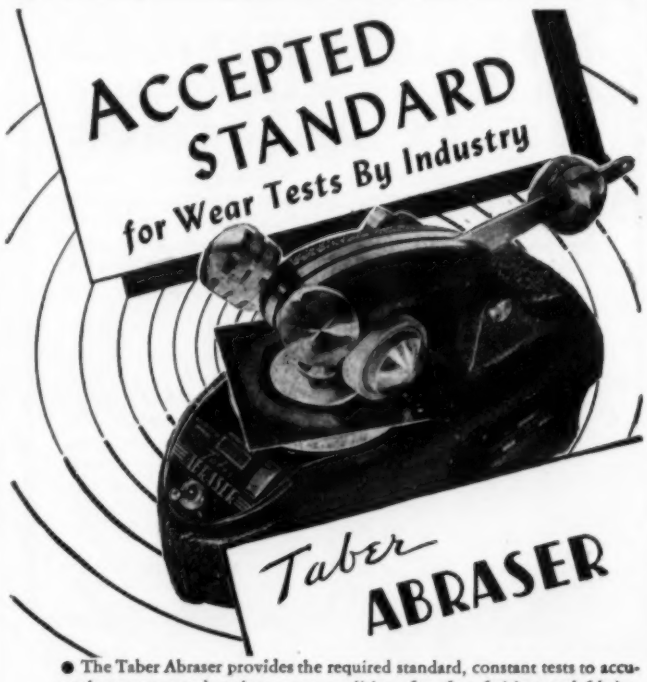
▲ Mention Item NED-5961 when writing ▲

WELD RIVETING MACHINE



Although originally developed for resistance welding, this welding machine is adaptable for riveting of stamped assemblies. It looks like a spot welder but is equipped with indexing table. Machine hot-upsets and rivets in place the vanes of hydraulic flywheels. Ends of vanes stick through holes in faces of assembly rings. Electrodes are brought down under pressure against them, heating and at the same time upsetting these ends to rivet parts securely. Right amount of heat is obtained by means of conventional welding timers combined with lower current density than would be used for welding. Equipment made by **Progressive Welder Co.**, 3025 E. Outer Dr., Detroit 12, Mich.

▲ Mention Item NED-5962 when writing ▲



• The Taber Abraser provides the required standard, constant tests to accurately compare and evaluate wear qualities of surface finishes and fabrics. Scientific wearing action by two rotating "Calibrase" wheels against a 4" specimen mounted on revolving turntable, is recorded in terms of "wear cycles" on built-in counter. Use the Taber Abraser as your standard for wear tests. Write for Bulletin 2014 NOW.

TABER INSTRUMENT CORPORATION
111ND GOUNDRY STREET, NORTH TONAWANDA, N. Y.
Designers and Builders of Scientific and Precision Apparatus

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AIRPORT ELECTRICAL EQUIPMENT

PANELBOARDS • SWITCHES • CIRCUIT BREAKERS • DISTRIBUTION SYSTEMS

Many of Square D's standard devices are ideally suited for airport installations, indoors and out. Safety switches and circuit breakers, for example, are available in a variety of enclosures to meet any application. SQUARE-DUCT is ideal for flexible power distribution—easy to install and economical.

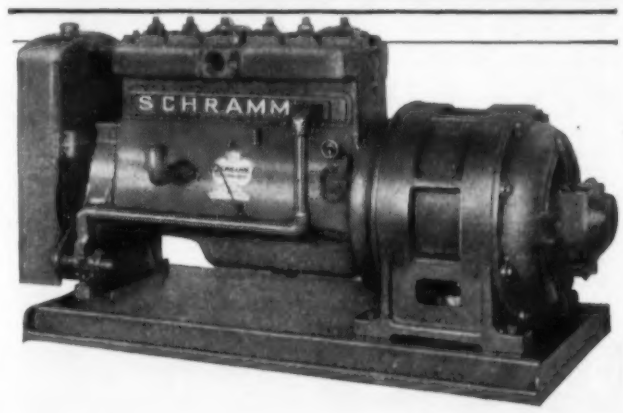
A staff of design engineers is at your service in building special equipment, tailor-made for individual applications. Typical of such designing is the airport control panel shown at the left. It provides automatic timing and remote control.

Write for Square D Digest 128

ELECTRICAL EQUIPMENT • KOLLSMAN AIRCRAFT INSTRUMENTS
SQUARE D COMPANY
DETROIT • MILWAUKEE • LOS ANGELES

▲ Mention Item NED-5964 when writing ▲

Why SCHRAMM COMPRESSORS are Water Cooled!



The basic system of any cooling system is simply to remove heat of piston travel and reciprocating parts from the surrounding metal as quickly as possible by the cooling medium. Heat travels from metal to water 200 times faster than from metal to air. By using water to carry heat away and by providing water jackets which completely surround compressor cylinders and heads, SCHRAMM achieves the following outstanding advantages:

. . . assured uniformity in cooling.

. . . elimination of unequal expansion and contraction which might cause distortion.

. . . absolute control of operating temperatures to the desired degree.

. . . longer life to compressor parts.

. . . higher efficiency of compressive cycle.

. . . higher compressor capacity at lower power cost.

. . . greater capacity in smaller overall space requirements.

. . . ability to provide compressed air efficiently under any and all temperature conditions.

. . . ability to provide compressed "air where it's needed," regardless of the amount of water available for cooling. SCHRAMM compressors are built in types equipped for re-cooling water (as well as for running water).

Get all the facts . . . NOW!

Write at once for complete details. Send for Catalog No. 42-S.

SCHRAMM, INC., WEST CHESTER, PA.
THE COMPRESSOR PEOPLE

SCHRAMM Air Compressors

▲ Mention Item NED-5965 when writing ▲

"HYPER-MILLING" Explained!

ASK FOR BULLETIN FE-106

Firth-Sterling STEEL COMPANY
McKeesport, Pa.

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HEAVY PIECES CAPTURED

BY THIS "TANK"

IDEAL "TANK-TYPE" ELECTRIC CLEANER

Traps Scrap

Picks up metal filings, turnings, dirt, and other heavy particles and traps them in 12-gal. metal tank thus preventing damage to fan, housing and bag.

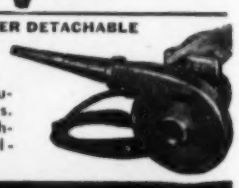
Longer Life for Machines, Motors

Reaches hard-to-get-at places. Keeps Machinery Clean, makes it "live" longer. IDEAL's full 1 H.P. Motor blowing low pressure, dry air at 24,900 ft. per minute velocity assures thorough yet safe cleaning.

Write for Free Detailed Literature

HAND CLEANER DETACHABLE

Available as Separate Unit



Blows, Vacuums, Sprays. Special Attachments Available.

IDEAL Sycamore
★ IDEAL COMMUTATOR DRESSER CO ★
1032 Park Avenue Sycamore, Illinois
Sales Offices in All Principal Cities

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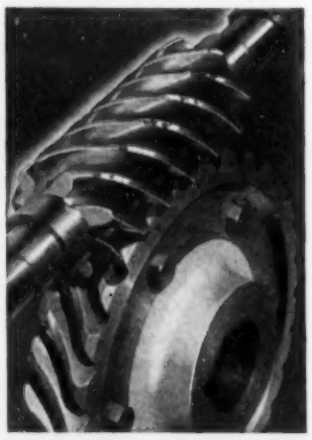
You need the hours that Clevelands can save



MANY Cleveland Worm Gear Drives installed in the early 1920's are still running on a round-the-clock schedule—they never have needed the replacement of even a single part.

Clevelands take severe punishment and come back for more—their owners too "come back for more" when ordering new machines. This Company's repeat business over the years is a fine asset to us, a safe guide to thoughtful buyers as well.

You need the hours that Clevelands can save by keeping your machines off the absentee list. In wartime and peacetime alike it's our single job to build trustworthy Drive Equipment that you can install and then forget for years to come.

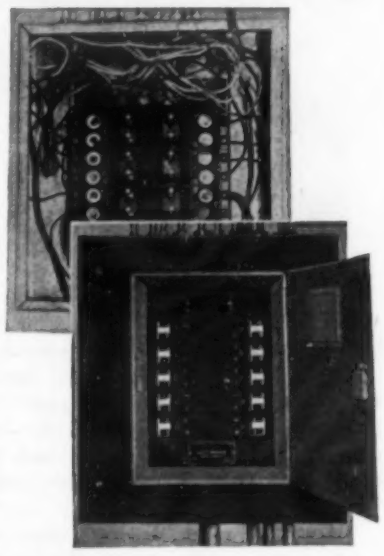
THE CLEVELAND WORM & GEAR COMPANY
3283 East 80th Street • Cleveland 4, Ohio
Affiliate: The Farval Corporation, Centralized Systems of Lubrication
In Canada: PEACOCK BROTHERS LIMITED

CLEVELAND WORM GEAR Speed Reducers

▲ Mention Item NED-5968 when writing ▲

CIRCUIT BREAKER PANELBOARD

Offering means for complete conversion of obsolete fusible panelboards which have frequently been overloaded to meet demands of war production schedules, Multibreaker Convertible Panel Plan is equipped with circuit breakers and provides considerable increase in number of circuits, as well as in circuit and main capacities. Cases have been reported by field engineers of capacity increases as high as 400 percent, but average increase has been 50 to 100 per cent.

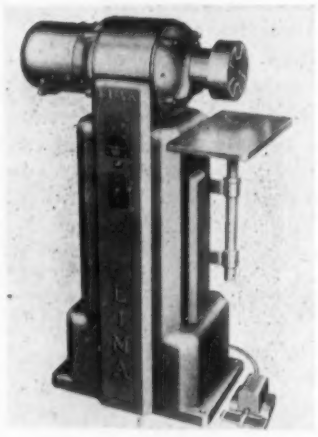


Plan utilizes installed box and conduit, thus reducing need for critical materials and minimizing time required for change-over. Installation removes cause of overload and heating with resultant loss of power. Old trim and interior are removed from box and existing wiring pulled out if it cannot be used. By employing thin-wall wire, existing conduit may be wholly or partially used. Trim, as shown in illustration, completes revamped installation. Made by Square D Co., 6060 Rivard St., Detroit 11, Mich.

▲ Mention Item NED-5969 when writing ▲

MAGNETIC POLISHING LATHE

Designed to eliminate difficulties encountered in holding odd shapes or sections of steel and other ferrous metals for polishing, burring or lapping operations, Lima magnetic polishing lathe does not cause chuck or collet marks. Lathe will hold highly finished parts from 1½ inch diameter up. Unit is furnished with either single or two speed motors, two or three phase, with motor speeds to 3600 revolutions per minute. Self-contained rectifier unit supplies direct current to chuck. Interchangeable face plates and register plugs make it adaptable to various types and sizes of work. Lathe is supplied in either pedestal or bench type.



Foot pedal control, which can be located in any position convenient to operator, controls operations of lathe, leaving hands of operator free to handle and process work. Magnetic disc type brake for rapid stopping of motor and chuck is supplied as standard equipment unless otherwise specified. Swinging table attached to pedestal, which can be raised or lowered to accommodate different diameter chucks, holds parts or pieces to be processed. This can be adjusted to any position convenient for operator. All units are equipped with Lima drip-proof motors. Made by The Lima Electric Motor Co., 301 Findlay Rd., Lima, O.

▲ Mention Item NED-5970 when writing ▲

BEAT LABOR SHORTAGES AND GAIN FASTER SERVICE WITH Jackson Dishwashers

Leading industrial cafeterias using Jackson machines report labor savings up to 50% and more—*plus* extra savings in linen, cleanser breakage and supplies. Double revolving wash and rinse sprays reach every inch of exposed surface, assure cleaner, faster operation and thoroughly sanitized glass dishes and silverware. Economical, low in cost, and easy to operate.

VICTORY MODEL NO. 2

Model No. 2 will wash and rinse 4000 pieces per hour—wash water never contaminated. Small and compact, fits left or right hand or corner installations, economical. Write for descriptive folder on all Jackson Models.

DISHWASHING SPECIALISTS SINCE 1925

JACKSON DISHWASHER COMPANY
3703 East 93rd St.,
CLEVELAND, OHIO

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ROPER ROTARY PUMPS with Pan American AROUND THE WORLD..

That Pan American is able to serve United Nations throughout the world, is due to 14 years of pioneering and scientific progress.

To meet the exacting demands of this great air transport system mechanical equipment must function efficiently with a minimum of servicing.

Roper Rotary Pumps meet these requirements . . . that's why they serve Pan American. The simple Roper principle . . . only 2 moving parts . . . equal size pumping gears operating at the same speed . . . assures quiet and smooth operation with a minimum of wear.

Write for Catalog No. 1149

ROPER Rotary Pumps

GEO. D. ROPER CORP., ROCKFORD, ILL.

▲ Mention Item NED-5972 when writing ▲

CRESCENT ELECTRICAL WIRES AND CABLES

Are Meeting Today's Special Needs

"CRESFLEX" NON-METALLIC SHEATHED CABLE

For war housing, industrial wiring, and interior wiring of all kinds.

WELDING CABLE

Extensively used in shipyards, and for the manufacture of tanks, guns and planes.

"IMPERIAL" NEOPRENE JACKETED PORTABLE CABLE

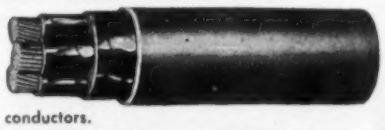
For heavy duty portable power leads to drills, tools, welding & construction machinery. Oil Resistant.

SHIPBOARD CABLE

For electric power and control units aboard ship.

VARNISHED CAMBRIC POWER CABLE

For general industrial power wiring. Widely used because no rubber required in construction, and can carry larger currents for same size copper conductors.



CRESCENT INSULATED WIRE & CABLE CO.
TRENTON, N. J.

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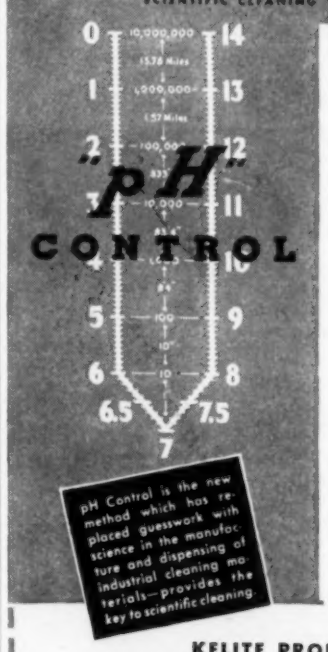
KELITE

SCIENTIFIC CLEANING THROUGH pH CONTROL



pH Control is the new method which has replaced guesswork with science in the manufacture and dispensing of industrial cleaning materials—provides the key to scientific cleaning.

KELITE KDL No. 1
Best for Al and Mg

Kelite KDL No. 1 cleans rapidly, yet it cannot harm aluminum or magnesium. Test pieces processed in solutions of KDL No. 1 (at concentrations and temperatures far greater than necessary for successful cleaning) show absolutely no sign of attack or loss of weight.

The peak pH of this material is 100% safe for aluminum and magnesium. And, in order to increase the efficiency of subsequent operations such as anodizing and spot welding, Kelite KDL No. 1 rinses free.

Copyright 1943 Kelite Products, Inc.

KELITE PRODUCTS, Inc.
909 EAST 60th ST., LOS ANGELES, CALIF.
Manufacturing Plants in Los Angeles, Chicago, Perth Amboy, Houston. Branches in principal cities.

▲ Mention Item NED-5974 when writing ▲

Get Drawings Into the Shop
DAYS FASTER!

HUNTER
Electro-COPYIST
the machine that
COPIES ANYTHING

★ At last—near-magical relief for hard-pressed drafting rooms. A machine that gets drawings into the shop DAYS FASTER . . . . *photo-exact* reproductions that need no re-checking. It's tailor-made for today's 3-dimensional visuals, as well as for the pencil-line preliminary designs and detail tracings so useful in many engineering departments.

★ Electro-Copyist photocopies anything drawn, written, printed or photographed, in a few minutes at the most. Has no lenses; needs no focussing or darkroom. An office boy can operate it. Write today for the latest folder—it shows time savings in scores of ways for your engineering, purchasing, legal and general office departments.

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- drawings
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HUNTER ELECTRO-COPYIST, INC.
433 S. Warren St., Syracuse, N. Y.

▲ Mention Item NED-5975 when writing ▲

Rust
Can't Touch
HARPER
BOLTS

HARPER Fastenings resist rust, corrosion, salt laden air and other deep sea troubles. They're made of non-ferrous and stainless alloys. Today they are doing Trojan duty on battle ships, cruisers, aircraft carriers, PT boats, landing boats, submarines and many other types of vessels.

Because they are rust and corrosion resistant, Harper fastenings withstand severe conditions in the chemical, food, utilities and numerous other industries. In the proper alloys they are non-magnetic, non-sparking, repeatedly removable and have other sterling properties.

4320 STOCK ITEMS
. . . of bolts, nuts, screws, washers, rivets and accessories in the non-ferrous and stainless alloys.

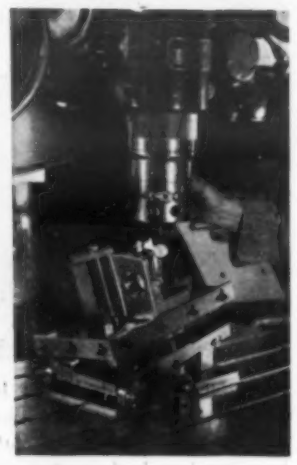
THE H. M. HARPER COMPANY
2628 Fletcher Street • Chicago, Illinois

BRANCH OFFICES: 45 West Broadway, New York City 7 • 1442 Broad Street Station Bldg., Philadelphia 3 • 332 I. N. Van Nuys Bldg., Los Angeles 14 • 2nd National Bank Bldg., Houston 2, Texas • 800 Broadway, Cincinnati 2, Ohio • 739 N. Broadway, Milwaukee 2, Wis. • Representatives in Principal Cities.

HARPER
EVERLASTING FASTENINGS
BRASS • BRONZE • COPPER
EVERDUR • MONEL • STAINLESS

▲ Mention Item NED-5976 when writing ▲

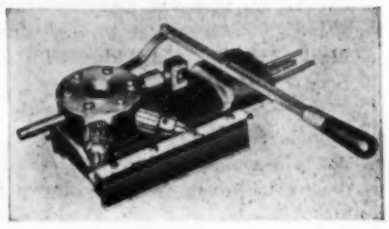
ANGLE PLATE



Ordinarily used for angular inspection work, this sine plate also provides method of quickly securing accurate angular set-ups for jig boring Plate is adjusted to required angle, either single or compound, by use of standard gage blocks. Work can then be quickly attached to plate with no possibility of slipping or changing positions during boring operation. Plate, being non-magnetic, is not dependent on electric current being available where it is used. Made by **Robbins Engineering Co.**, 324 Midland Ave., Detroit, Mich.

▲ Mention Item NED-5977 when writing ▲

LATHE BED TURRET



Providing six tool stations and six individual stops which index with table, this self-indexing bed-turret can be attached to standard lathes. Turret head is mounted on preloaded Timken bearings which can be adjusted for wear. Ways are hand scraped. Attachment is lever operated for rapid action. It has maximum stroke of 4 inches with minimum index stroke of 1½ inches. Total travel including index is 5½ inches. Attachment is furnished completely assembled except for turret holes which are left blank to be bored on individual machine to insure perfect fit.

Back indexing is accomplished by hand to obtain production speed when using less than full set of six tools. Precision repeating is obtained because index bushings and lock pins are of hardened and ground tool steel. Made by **Kessler Aero Tool Co.**, 211 W. Palm Ave., Burbank, Calif.

▲ Mention Item NED-5978 when writing ▲

CABIN TYPE THERMOSTAT

Designed for control of temperature in aircraft cabins and similar compartments, this thermostat has sensitive element consisting of bimetal coil mounted on flexing hinge. Entire operating assembly is spring suspended on bakelite base and enclosed within completely surrounding aluminum case which can be readily grounded. Rotating dial provides temperature setting and is visible through front of case. For those applications which require control of temperatures that are served by dual heaters, installation is also available in duplex model. Thermostat weighs 7 ounces in single model and is rated at 0.5 amperes at 24 volts direct current. Made by **Barber-Colman Co.**, 230 Loomis St., Rockford, Ill.

▲ Mention Item NED-5979 when writing ▲

TO SHIP THEM SAFELY OVERSEAS
HEAVY-DUTY
GENERAL WIREBOUND BOXES

THESE export containers save shipping space—and their weight is considerably less than the conventional types of export boxes. Packing and unpacking is quick and easy—and they can be re-used. The HEAVY-DUTY General Wirebound is made of much heavier material than the domestic wirebound box. It complies with Army and Navy overseas specifications. Reinforced with binding wires, stapled to all four faces, it provides maximum protection against crushing, distortion and rough handling.

Write for information on how the HEAVY-DUTY container can benefit your peacetime products tomorrow.

GENERAL BOX COMPANY

General Offices:
Corner of Dearborn and Illinois Streets, Chicago, Illinois
District Offices and Plants: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, New Orleans, Sheboygan, Winchendon; Continental Box Company, Inc.: Houston, Dallas

▲ Mention Item NED-5980 when writing ▲

Grind Your Own
Shapes . . . Diameters . . . at Low Cost!

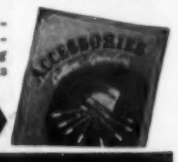
● These single flute, straight-shank GORTON Super-Speed Steel Milling Cutters will help your operator reduce loss of time in sharpening and grinding cutters.

FOR DIE AND MOLD WORK
They are designed for use on leading makes of Vertical Millers, Duplicators, Pantographs, Die Sinkers, Profilers, High-Speed Milling Heads.

Cutters are accurate to −.0005", *easily resharpened* and reground to other sizes and shapes.

Furnished in three styles, *Square Nose, Ball Nose* and *Conical*, each style in diameters from 1/10" to 1/2". Other styles, 2- and 4-flute Spiral Cutters, Double End Mills, etc., in a variety of sizes up to 1" diameter, also available.

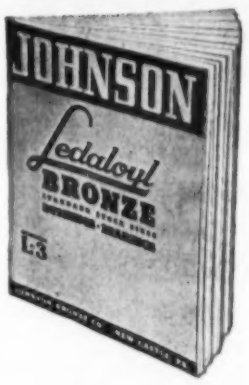
Write for *Gorton Accessories Catalog* offering 580 aids to production.



FREE

GEORGE GORTON MACHINE CO.
1103 13TH STREET, RACINE, WISCONSIN, U. S. A.

▲ Mention Item NED-5981 when writing ▲



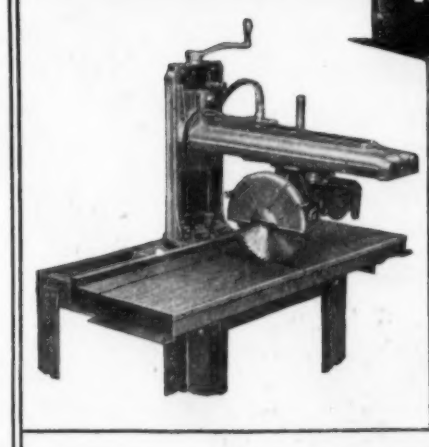
NEW
Catalogue
Self Lubricating
BEARINGS

This new book will save you time and trouble in securing your bronze bearings. Over 2000 sizes are listed, including plain, flanged and spherical or self-aligning bearings. Tool and die equipment is on hand and reasonable deliveries can be made in any quantity. Write for your free copy today.

JOHNSON BRONZE
SLEEVE BEARING HEADQUARTERS
580 S. MILL STREET NEW CASTLE, PA.

▲ Mention Item NED-5982 when writing ▲

WALLACE No. 1
RADIAL SAW



ALL-PURPOSE SAW for WOOD AND METAL

●

For cut-off, miter and rip work on Wood, Duralumin, Brass, Bronze, Steel, Glass and other refractory materials.

In the crating department, for plant maintenance work, for production sawing and cutting operations on wood, duralumin, metals, etc. the Wallace No. 1 Radial Saw is unexcelled. Material lays flat on table,—motor is moved back and forth in arm for cutting. Arm, column and motor all rotate 360° and can be set at any angle position for cutting. Motors to 2 H.P. Used with saw blades or 3/32" thick abrasive wheels. Write for bulletins on this cost-saving machine *today*.

J. D. WALLACE & COMPANY
145 S. California Ave. Chicago, Illinois

▲ Mention Item NED-5983 when writing ▲

QUALITY UNSURPASSED

SINCE 1854

Catering to the needs of an exacting clientele—and that means—quality in materials, workmanship, packaging and service.

CLARK BROS.

can supply—standard or special fasteners in the form of bolts, nuts, screws or rivets

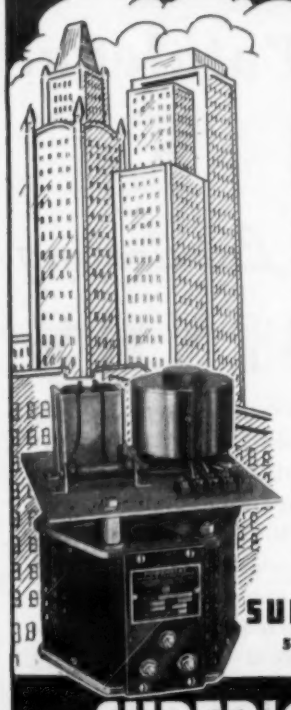
May we quote your next order?

BOLTS·NUTS·RIVETS SCREWS

CLARK BROS BOLT CO.
MILLDALE, CONN.

▲ Mention Item NED-5984 when writing ▲

POWERSTATS



for controlling your
LIGHTING
HEATING
COOLING

For office buildings, stores, hotels, factories and theaters SECO motor-driven or manually operated POWERSTAT variable transformers find wide application.

Simple knob adjustment, push button or automatic operation enables you to . . .

(a) Control illumination for window, stage or general lighting.
(b) Conveniently and accurately comply with dimout rulings.
(c) Adjust unit heater fan speeds for exactly the right heating or cooling needs.

This equipment is extensively used in the Armed Forces for electronic application, but available for your use.

Send for Bulletins: 149 NI - POWERSTAT
163 NI - Voltage Regulators

SUPERIOR ELECTRIC CO.
57 LAUREL STREET, BRISTOL, CONN.

SUPERIOR *Electric Company*

▲ Mention Item NED-5985 when writing ▲

"TIME SAVER"

Improved holder with interchangeable steel type makes part number changes a simple operation. ...Guaranteed for years of service. Used by hand or press, it's a time and money saver.

PROMPT DELIVERIES

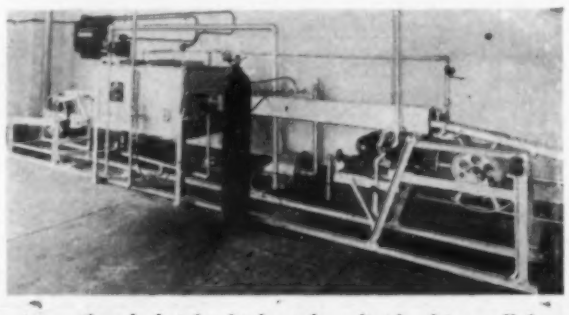
STOCK SIZES:
TYPE #1
TYPE #2
TYPE #3

SOSSNER 161 GRAND STREET NEW YORK 13, N. Y.

▲ Mention Item NED-5986 when writing ▲

INDUSTRIAL FURNACE

Adaptable for continuous, automatic brazing of copper pieces; silver soldering; sintering or bright annealing of metal strips, bands and miscellaneous formed objects which



require uniformly bright, high surface finish, this small furnace is fired by gas. Completely automatic temperature control is provided. Electric heating can be furnished if required.

Work to be brazed moves on continuous mesh belt conveyor into small enclosed charging neck and then into square muffle. It then emerges into long, full enclosed cooling zone which is water cooled. Length of charging neck and length, width and height of muffle, as well as length of cooling chamber, depend on size and quantity of pieces to be treated and on speed of their travel through furnace. Belts ranging from 2½ to 7 inches and wider, with square muffles to suit, have been built.

Furnace has steel shell with heavy insulating firebrick lining. Muffle is of Nichrome. Controlled reduced atmosphere is maintained in muffle and cooling chamber by introducing hydrogen which is drawn from cylinder at controlled rate. Made by W. S. Rockwell Co., 50 Church St., New York 7, N. Y.

▲ Mention Item NED-5987 when writing ▲

CATHODE RAY TUBE TESTER

Thorough checking of cathode ray tubes received from production lines is readily accomplished through use of "electronic desk", several of which are installed at this company's plant. For routine production testing, equipment is operated by girls. Engineers use similar equipment for quickly determining characteristics of new tubes and experimental runs.

Tester is steel cabinet in form of modified flat-top desk. Inclined platform supports cathode ray tubes which are plugged into their respective sockets at rear. Directly beneath inclined platform or shelf is battery of meters covering all required readings. Directly in front is writing space, with drawer for forms, pencils and other supplies. Ample space is provided for additional meters. Controls and switches for power supply to provide required voltages for all types of cathode tubes are located conveniently where desk drawers would be normally.

After setting required voltages for given type of tube or tubes, operator can check tube characteristics directly from meters and readings are entered on inspection sheets which cover each tube. Made by **Allen B. Du Mont Laboratories, Inc.**, 2 Main Ave., Passaic, N. J.

▲ Mention Item NED-5988 when writing ▲

One Hour from Now
MAY BE TOO LATE!

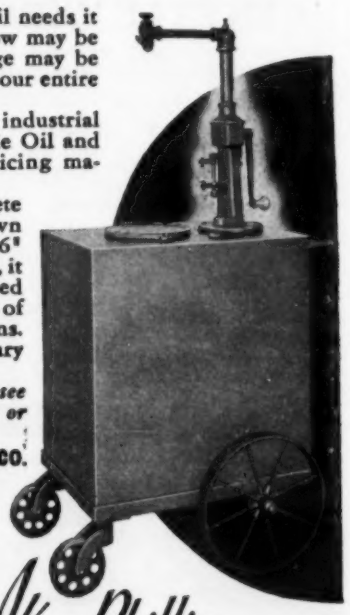
THE MACHINE that needs oil needs it now. One hour from now may be too late. Irreparable damage may be done and the production of your entire plant may be halted.

That is why thousands of industrial plants need Phillips Portable Oil and Solvent Dispensers for servicing machines quickly.

Typical of Phillips' complete line is the Model 81-GT shown at right. Equipped with 16" wheels and 6" swivel casters, it can quickly and easily be moved to any desired spot. Capacity of the tank is 65 or 120 gallons. Can be furnished with rotary pump—capacity 12 G.P.M.

For complete information see your mill supplies distributor or write

THE PHILLIPS PUMP AND TANK CO.
5004 Brotherton Road
Cincinnati, (Oakley Station) 9 Ohio



DEPENDABLE PHILLIPS SERVICE STATION EQUIPMENT

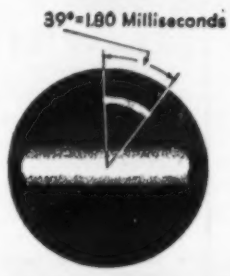
It's a Phillips

▲ Mention Item NED-5989 when writing ▲

PUT IT IN *Electronic*

WRITING...

★ Oscillograms such as these, vividly traced on the DuMont oscillograph screen, permit either a quick grasp or a detailed study of simple or intricate electrical functions, circuits, equipment.



Yes, it pays to put such matters in *electronic writing* these days. More and more studies, presentations, maintenance problems, are being handled that way.

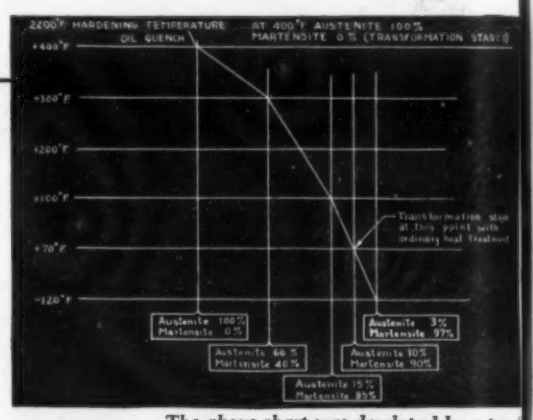
And DuMont equipment, because of its versatility of application as well as sharp, detailed, brilliant, high-fidelity oscillograms, is the recognized standard the world over.

★ Write for Literature . . .

DUMONT
ALLEN B. DU MONT LABORATORIES, Inc.
Passaic · New Jersey
Cable Address: Wespaxlin, New York

▲ Mention Item NED-5990 when writing ▲

How Cold Treatment of Steel at -120° F. Results in Transformation of Austenite to Martensite



The above chart was developed by a prominent metallurgist showing the curve of transformation of Austenite to Martensite in metal at temperatures varying from 400° F. to −120° F.

● The Deepfreeze Cascade −120° F. Industrial Chilling Machine is finding widespread application in the hardening and stabilization of metals by cold treating at temperatures of −100° F. to −120° F.

Recent tests reveal that chilling of steel at −120° F. in a Deepfreeze immediately after quenching results in a greater transformation of the retained Austenite to Martensite. With ordinary heat treatment the transformation stops when the steel reaches room temperature, leaving approximately 10% Austenite content. However, chilling to −120° F. in a Deepfreeze results in a nearly complete decomposition of the retained Austenite.

Deepfreeze Cascade -120° F. Industrial Chilling Machine for the Shrinking, Testing and Treating of Metals . . .

In addition to the treatment of metals, Deepfreeze Chilling Machines are finding many other money saving applications in a wide variety of industrial fields. The Cascade −120° F. Industrial Chilling Machine shown above has the chilling capacity for high production metal chilling of any part where large quantities of heat must be removed fast. Let Deepfreeze engineers assist you in the application of cold treatment to your products.

Free Additional Information . . .

For additional information on Deepfreeze equipment send for free copy of bulletin with complete details, specifications, and listing other uses.

Deepfreeze 2316 Davis Street, North Chicago, Illinois
Division of Motor Products Corp. Detroit, Michigan

▲ Mention Item NED-5991 when writing ▲

"Oomph" DRAFTING

NO-INK Drawing Board TOP

Adopted as Standard By Major Industries

RE-SURFACE *Worn Boards. Modernize New Boards.*

PRECISION-IZE *Pencil Drawings for Perfect Prints.*

RELIEVE *Shortages of Men and Materials.*

SPEED *Production, Yet Cut Costs.*

Resilient drawing surface produces a sharp, opaque stroke in the drawing—results in perfect prints—makes inking unnecessary. The most perfect, most delightful surface to work on.

10 Years More Use From Old or Discarded Boards

Users are reordering in quantity. Over 25,000 NO-INK Drawing Board Tops already in use, saving man-hours, speeding production, renewing discarded boards, modernizing new boards. Costs so little.

We cut Tops to exact board size, no matter how large or how small. Attached by anybody in 10 minutes, ready for immediate use. Economize, modernize your drafting procedure. Write for catalog, prices and trial offer.

Est. 1911. Over 30 Years of Guaranteed Customer Satisfaction

W. H. LONG COMPANY, 425 NO. CLARK ST., CHICAGO 10, ILL.

▲ Mention Item NED-5992 when writing ▲

Dust, Soot, Smoke

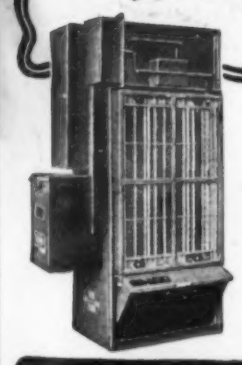
EVEN *Oil Vapors and Welding Fumes*

PRACTICALLY VANISH WHEN THE AMERICAN

ELECTRO-MATIC

SELF CLEANING ELECTRIC PRECIPITATOR

is on the job



Electrical precipitation—long recognized as the most efficient method of collecting smoke, soot, and fine dust particles—is combined in the AAF Electro-Matic with the automatic self-cleaning viscous impingement filter to provide the most efficient air cleaning ever offered. Send for Bulletin No. 250D. Address 391 Central Avenue.

AAF

AMERICAN AIR FILTER CO. INC.
INCORPORATED
LOUISVILLE, KENTUCKY

In Canada, Darling Brothers, Limited, Montreal, P. Q.

▲ Mention Item NED-5993 when writing ▲

"TALKING" TORQUE WRENCH

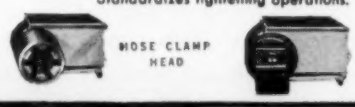
AN-H-2 (MARCH 1942) PARA. D-6E, PAGE 19

Applies Proper Torque Loads Without Watching

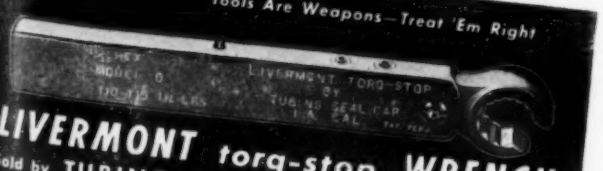
Each wrench is pre-set to the proper load for the nut it is designed to fit.

When desired load is reached, small plunger taps the hand — wrench gives a definite audible "click" signal.

The Livermont Torq-Stop Wrench requires no visual attention. Touch and sound indications make it super-efficient in darkness or in noisy areas—meets close tolerance requirements. Standardizes tightening operations.



Tools Are Weapons—Treat 'Em Right



LIVERMONT torq-stop WRENCH

Sold by TUBING SEAL-CAP, INCORPORATED
215 WEST 7th STREET • LOS ANGELES 14, CALIFORNIA
Eastern Representative: 428 New Center Bldg., Detroit

▲ Mention Item NED-5994 when writing ▲

MACHINING OPERATION

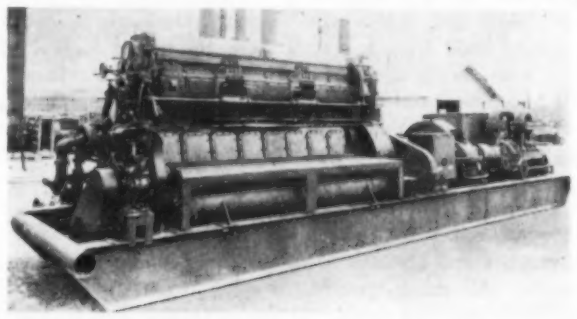
Use of this standard 20 V 16 Snyder drilling, milling and boring machine facilitates operations which would normally require special machine. Work piece is large diameter ring used on tank destroyer and operation is drilling of 56 holes in ring. Machine was equipped with 14-spindle multiple head which completes 56 holes after four indexes.

Table is 60 inches in diameter and is manually operated. Large sub-base is used which also serves as chip trough. Features of machine include adjustable hydraulic feed with rapid advance and return under preset remote controls, adjustable dogs for controlling cycles and readily accessible control buttons. Machine is built in two sizes, large for drilling holes up to 5 inches in diameter and small for holes up to 4 inches in diameter. Adaptability of machine offers many possibilities for easy conversion to post-war use. Made by Snyder Tool & Engineering Co., 3443 E. Lafayette St., Detroit, Mich.

▲ Mention Item NED-5995 when writing ▲

DIESEL PUMPING UNIT

Originally fueled by gas, this large engine was converted to diesel operation for driving large pump required for temporary service in transporting crude oil through trunk line of pipe



line company in Oklahoma. In addition to furnishing increased capacity of from 30,000 to 40,000 gallons per day, this portable unit can also be used for transporting crude oil from new wells through temporary feeders to main trunk lines, thus replacing several engines of less capacity which were formerly required.

Large type EN 8-cylinder stationary gas engine was removed from pumping station, converted to fuel oil operation and mounted on base of 18-inch I-beams. All required auxiliary equipment to make unit self-contained were added. It is only necessary to make intake and discharge connections to start pumping service.

Starting equipment is of compressed air type, air being supplied by air storage tank charged by small engine driven compressor. Direct current generator fitted at flywheel supplies power for lighting. Heat exchanger mounted along base skid is connected so that crude oil acts as cooling medium for jacket water. Two Nugent waste pack oil filters keep fuel oil and lubricating oil clean. Engine made by The Cooper-Bessemer Corp., 3500 Sandusky St., Mount Vernon, O.

▲ Mention Item NED-5996 when writing ▲

CLEANLINESS AT WAR . . .

You can't get full lighting efficiency with dirty walls and ceilings — and dust coming down on men, machines, materials and finished goods, slows up production.

In these days of quantity production, precision performance, and rigid inspection, Spencer Vacuum is being used more than ever before.

A full line of Spencer Vacuum hose and tools meets every condition in industry. It's ideal for bench cleaning and final cleaning of heavy equipment such as planes, tanks, and jeeps.

Inexperienced men or women can use the Spencer with speed and efficiency. Ask for the bulletins.

243 K

SPENCER VACUUM CLEANING
HARTFORD

THE SPENCER TURBINE COMPANY, HARTFORD 6, CONN.

▲ Mention Item NED-5997 when writing ▲

METEX COOLANT STRAINER

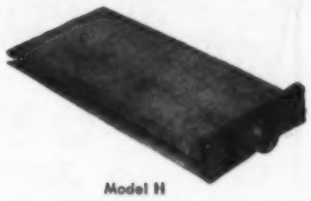
The Inexpensive Efficient Coolant Strainer

(U. S. Pat. 1676191—Other Pats. Pending)

Model C

MODEL C, cylindrical type coolant strainer is the size adaptable to most machines. Strains chips and slag from coolant. Protects pumps, gears. Prevents excessive machine wear and defective workmanship due to scoring, etc. Easily installed. Diameter 5". Overall height 4-5/32". Capacity to 10 G.P.M.—¾" pipe.

MODEL H is designed particularly for grinders and automatic screw machines, yet works efficiently in all machines. Especially adapted to machines with shallow or narrow sumps. Removes fine residue (grindings, lint, etc.) from coolant.



Model H

Write for detailed information

METAL TEXTILE CORPORATION

10 Central Avenue, Orange, N. J.

▲ Mention Item NED-5998 when writing ▲

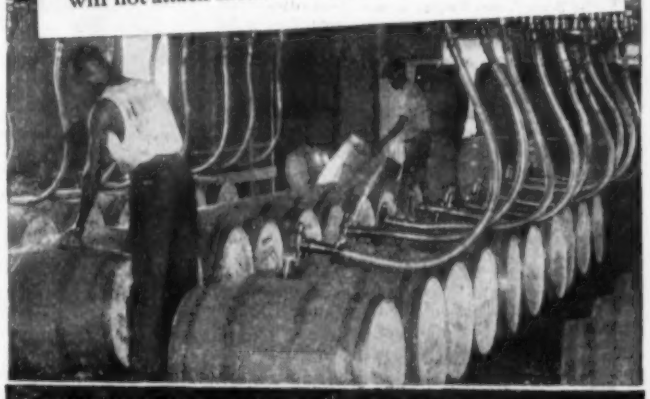
PENFLEX Automatic Drum or Barrel Fillers—

Adjustable for sensitivity and liquid level—prevent overflow . . .

Set adjustments for viscosity of material handled, and level in shipping container desired; PENFLEX Barrel Fillers do the rest. Automatic in action—flow stops when desired level is reached—no loss, no overflow.

No watching—one man or woman can fill many drums or barrels with less fatigue.

PENFLEX Automatic Drum and Barrel Fillers will handle light or heavy oils—hot or cold—under pressure or gravity. Also volatiles like high octane gasoline and alcohol; or high density liquids like viscous crude residues as well as many other solutions that will not attack metal. For details, write for Bulletin 54.



PENNSYLVANIA FLEXIBLE METALLIC TUBING CO.
7232 Powers Lane, Philadelphia 42, Pa.
ESTABLISHED 1902

▲ Mention Item NED-5999 when writing ▲

● Gear your production to greater *speed* and *efficiency*... by using ARO Pneumatic Tools for small tool jobs such as drilling, grinding, screwdriving, nut setting, and many special applications.

Today's demands for round-the-clock production emphasize the importance of ARO's simple design...light weight in relation to great power... and dependability. Write for catalog today.

THE ARO EQUIP. CORP. ARO BRYAN, OHIO

PNEUMATIC TOOLS

▲ Mention Item NED-6000 when writing ▲

"GREEN HANDS FROM TRAINING SCHOOLS COULDN'T BURN TOOLS"

(Highlights from actual field report)

THE JOB: Grinding free hand and dry on Excello Tool Grinder carbide-tipped tools 1" x 1" x 6", for turning airplane struts, shaping airplane carburetors, shaping and turning gun turrets for planes.

THE WHEEL: POR-OS-WAY—10" x 2" x 2" C54KV3.

THE RECORD	POR-OS-WAY WHEEL	FORMER WHEEL
Number tools per hour per man	37	26
Number of dressings required	None	Every 2 hours
Pieces per wheel	888	520
Stock to be removed	.000"—.250"	Same
Wheel life	24 hours	20 hours
Depth of cut	.002"—.010"	Tools burned when jammed into wheel
Number of passes required	12	48
Amount of rejects	0	50 per day (scrapped)
Increase in production	42.3%	——

2 TO 5 TIMES MORE WAR PRODUCTION PER MAN PER MACHINE

A. P. DE SANNO & SON, INC.
Manufacturers of Rustac and Tempryte Products
446 WHEATLAND STREET
PHOENIXVILLE, PENNSYLVANIA
Offices and Warehouses in
Copyr., 1943, A. P. de Sanno & Son, Inc.
*T. M. Reg. U.S. Pat. Off.

POR-OS-WAY* a new RADIAC* PRODUCT

▲ Mention Item NED-6001 when writing ▲

RUGGED ACCURATE BED . . .

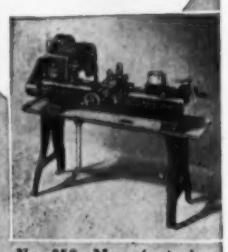
Another Finer Feature of Logan Lathes

END TO END VARIATION OF PRECISION GROUND V AND FLAT WAYS LESS THAN .001 OF AN INCH

The accuracy you need for precision work is yours in a Logan Lathe, even after long continuous use. For Logan combines solid strength and Nth degree accuracy in every Logan Lathe bed. Extra heavy ribbed and warp-free, the Logan bed is machined from the finest special analysis castings obtainable. Its V ways and flat ways are precision ground to an accuracy of within .001 of an inch from end to end. Write today for catalog sheets.

BRIEF SPECIFICATIONS

Swing over bed, 10½" . . . bed, 43⅛" . . . spindle hole, 25/32" . . . capacity, ⅝" with push type collet . . . stroke turret, 4¼" . . . 12 spindle speeds from 30 to 1450 r.p.m. . . . moving parts protected by ball bearings or self lubricating bronze bearings.



No. 850—Manufacturing Turret Lathe

Logan LOGAN ENGINEERING COMPANY
Chicago, Illinois

A NAME TO REMEMBER WHEN YOU THINK OF LATHES

▲ Mention Item NED-6002 when writing ▲

These are the BENEFITS of a Closely Held Voltage Supply

Better performance, greater reliability, longer life of electronic devices.

Protection of delicate instruments and machines, precision tools, electronic tubes against sudden overvoltages.

More accurate test results, fewer rejects.

And manufacturers—don't forget: a product's salability can be increased when voltage stabilization is a built-in feature.

AND HERE'S THE WAY TO GET IT

G-E voltage stabilizers provide constant 115 volts from circuits varying from 95 to 130 volts. Stabilizing action takes place in less than 3 cycles. Applicable where close voltage regulation is requisite to good operation.

Bulletin GEA-3634

General Electric, Schenectady, N. Y.

GENERAL ELECTRIC

▲ Mention Item NED-6003 when writing ▲

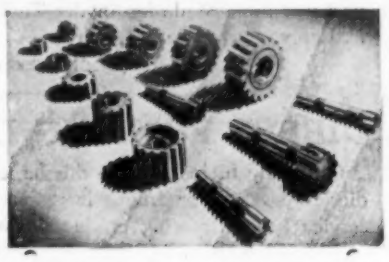
OPTICAL PROJECTOR

Of improved design, this model Wilder Projector has 2-inch diameter condenser which provides larger beam of parallel light and permits use of large diameter lenses in low power series. This is claimed to improve optical efficiency of instrument. Diameter of 10X lens is 1⅜ inch and of 20X lens, 13/16 inch. This profile inspection device is available for magnifications ranging from 10 to 100 times.

Improvements include totally enclosed head, fully ventilated lamp housing, spiral gears for smoothly operating focussing motion and larger, heavier lens mounts which facilitate changing and positioning in lens cone. Made by **George Scherr Co.**, 124 Lafayette St., New York 13, N. Y.

▲ Mention Item NED-6004 when writing ▲

THREAD MILLING CUTTERS



To facilitate delivery and simplify ordering, this line of multiple thread milling cutters has been standardized. Tools are finish machined and heat treated, ready for use after finish grinding of threads. Included in line are both shell and shank type cutters. Diameter range of 40 standard shell type cutters is from 1½ to 3½ inches. Each size has correct number of flutes to afford maximum tool life, accuracy and convenience in sharpening. Hole sizes correspond to standard thread milling machine arbors. All shell type blanks have right hand spiral flutes and 5-degree rake angle.

Twelve different shank type blanks are carried in stock, ranging from ¾ to 1½ inches in diameter. Face widths vary between 1 and 1½ inches. Shanks are from 3½ to 5 inches in length. All shank type blanks have right hand spiral flutes and 5-degree rake angle. Made by **Detroit Tap & Tool Co.**, 8432 Butler, Detroit 11, Mich.

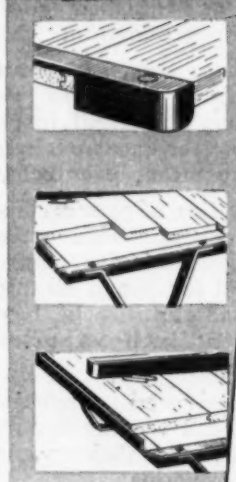
▲ Mention Item NED-6005 when writing ▲

LARGE GENERATED GEAR

Believed to be highest capacity right angle reduction drive ever produced by generating process, this 97.5-inch outside diameter Cone-Drive gear is equivalent in capacity to 161-inch outside diameter worm gear. Gear and pinion were generated on standard machines and backlash was held to maximum of 0.005 inch. Reduction ratio of gear set is 192 to 1, while pinion diameter is 7 inches. Produced by **Michigan Tool Co.**, Cone-Drive Div., 7204 McNichols Rd., Detroit, Mich.

▲ Mention Item NED-6006 when writing ▲

IRONBOUND SKIDS AND PLATFORMS



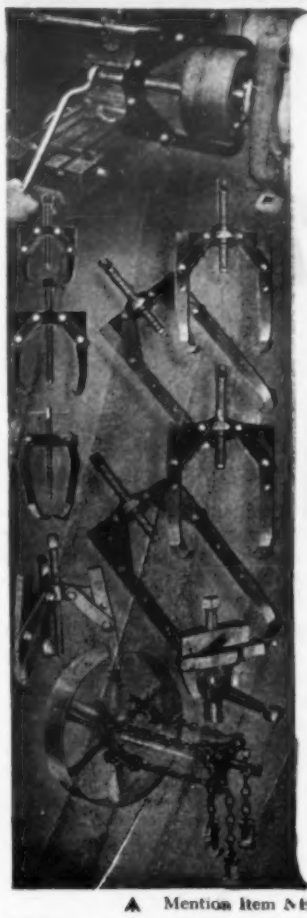
...for materials handling speed-ups!

All three basic types of construction — bolted, all-welded or combination bolted and welded—assure maximum service even under severe usage. Available in standard sizes or any special size required, IRONBOUND Skids and Platforms will carry loads up to 20,000 lbs. IRONBOUND units feature rounded-corners which prevent serious injuries and damage, and tongue and grooved deck construction to provide greater strength and smoother surfaces. Write for illustrated literature.

IRONBOUND BOX & LUMBER CO.
30 Hoffman Place, Hillside, N. J.

IRONBOUND
MATERIALS-HANDLING EQUIPMENT

▲ Mention Item NED-6007 when writing ▲



ARMSTRONG-BRAY GEAR & WHEEL PULLERS

Prompt Shipment from Stock

Today wheels must keep turning . . . shut-downs for repairs and change-overs must be brief, and a good wheel puller is essential to save valuable man and machine-hours and prevent breakage of irreplaceable wheels, pulleys and gears.

ARMSTRONG-BRAY GEAR AND WHEEL PULLERS come in types and sizes for all industrial applications.

STEELGRIP Standard Rigid Arm Pullers are of improved design. Will not slip from work. Arms are forged and heat-treated. 2-arm, 3-arm and special designs. 11 types.

CHAINGRIP Universal Pullers pull spoked wheels, solid gears, pinions, etc., even though they are a considerable distance from end of shaft. Proof tested chains have chain hook on one end, and special pulley hook on other. Furnished in 2 sizes.

Write for Catalog today. Be ready for emergencies — to keep wheels turning.

ARMSTRONG-BRAY & CO.
"The Belt Lacing People"
5336 Northwest Highway
Chicago, U. S. A.

▲ Mention Item NED-6008 when writing ▲

Pyra-Shell TRANSPARENT UTILITY BOXES

The unique features of these lightweight but sturdy boxes make them ideal for use in present day industrial production. They can be used on the assembly line for holding small parts; as repair kits for use in repair departments or in field work, also as stock room storage containers for important small parts.

Pyra-Shell transparent boxes speed up production because they eliminate the time usually wasted fumbling in dark corners for needed parts, the contents can be seen instantly—by simply looking through these boxes.

Many styles, sizes and compartment arrangements are available to meet your needs—or we can design a special box for your use.

Write for folder illustrating standard styles. Address—Utility Box Dept. D.

SHOE FORM CO. INC.
AUBURN, N. Y.

▲ Mention Item NED-6009 when writing ▲

DAYTON SAFETY LADDERS
have every advantage

No extra man needed to steady — Roomy platform for men and tools—Great strength, yet lightweight. Guard rails on platform. Automatic locking. Folds compactly

Airplane spruce used throughout — Steel braces—Safety shoes. In sizes 3' to 16' in height — Elevating platform adds height.

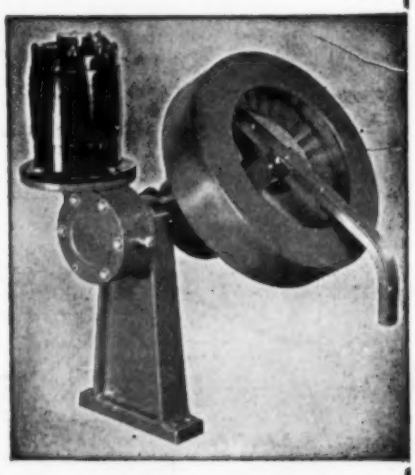
Write today for Free Catalog—Prices.

DAYTON SAFETY LADDER Co.
121-22 W. 3rd St. CINCINNATI, OHIO

▲ Mention Item NED-6010 when writing ▲

HOPPER FEEDS
MOTORIZED HOPPER UNITS FOR FEEDING:

SCREWS
SCREW BLANKS
NUTS
RIVETS
PINS
NUT BLANKS
WASHERS
DISCS
and many SPECIAL PARTS



Send Samples and Information will be given as to pickup. *Also Prices*

Units Are Adaptable To Presses, Thread Rolling Machines and Special Machines

DETROIT POWER SCREWDRIVER CO.
2819 W. Fort St. Detroit, Mich.

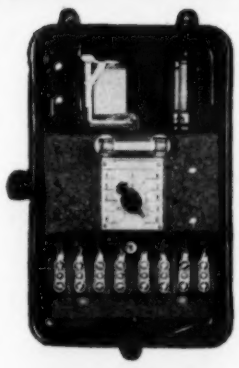
▲ Mention Item NED-6011 when writing ▲

ELECTRONIC
Short Interval Timing

1/20 Second to Two Minute Range with One Control — Unlimited-Life Accuracy

TOSWITCH Timer Type T15U times interval from 1/20th of a second to minutes. Insertion of proper timing gives 6-range control within these . Electronic operation eliminates ng parts, friction, wear — guar- complete accuracy over an un- ed period.

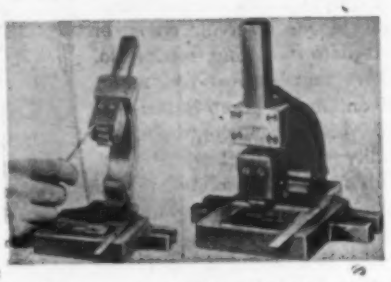
TYPE T15U PROVIDES:
Interval or Time Delay Action.
All Programming, Cycling, Sequenc- ng Operations.
lt us on your timing problems.
Write for Bulletin 901-A.



PHOTOSWITCH INCORPORATED
PHOTOELECTRIC & ELECTRONIC CONTROLS FOR EVERY INDUSTRIAL PURPOSE
CAMBRIDGE, MASS. *District Offices* IN ALL PRINCIPAL CITIES

▲ Mention Item NED-6012 when writing ▲

NUMBERING MACHINE



Providing fast and accurate means of placing government part numbers on machine parts, tags and number plates, Acromark arm and base numbering machine is made of shock resisting alloy steel. Shank and frame is one piece. Spring at back of square shank permits machine to be pressed down to object to be marked and then upon hammer blow this spring prevents "bounce-mark".

Adjustable guides on machined cast iron base insure that number will be stamped in same position on each part, tag or name plate. One illustration shows numbering machine in stamping position and other shows arm flipped back for number changing which can be accomplished with fingers or with small hand hook or stylus. Made by **The Acromark Co.**, 7-11 Morrell St., Elizabeth, N. J.

▲ Mention Item NED-6013 when writing ▲

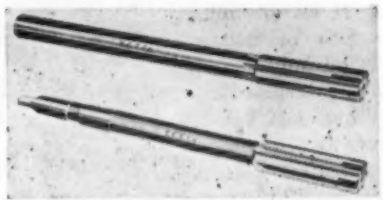
PHOTOGRAPHIC LENS CEMENT

Claimed to be more effective than cement made from natural Canada balsam, development of a new photographic lens cement is claimed to have led Army Air forces to change their lens specifications accordingly. Improved cement was adopted because of fact that many lenses in combat areas were breaking up, discoloring and being rendered useless as result of extremes in temperature encountered in stratosphere flying and desert fighting.

Completed lenses of aerial cameras consist of several component lenses which perform only as well as cement which holds them together. This cement must perform under desert temperatures of over 100 degrees and at flying temperatures as low as minus 60 degrees Fahr. It must likewise be able to withstand temperature changes of 150 degrees in short period of time. Cement developed by **Eastman Kodak Co.**, Rochester 4, N. Y.

▲ Mention Item NED-6014 when writing ▲

CARBIDE TIPPED REAMERS



Available in both straight shank and tapered shank varieties, standard line of carbide tipped reamers has hardened shanks. Mass production and standardization has made possible lower prices in addition to quick delivery. Sizes range from ¼ to 1½ inches. Up to 1-inch size, reamers are available in increments of 1/32-inch, while above 1-inch, diameters change by 1/16-inch.

Reamers up to ½-inch size are provided with four flutes, with six flutes for reamers from ½ inch to 13/16 inch inclusive and eight flutes for all larger sizes. Outstanding feature of this new line of standard reamers is that entire shank of reamer is hardened, providing greater strength and reduced shank wear. All tips are diamond ground. Outside diameter is held to tolerances of plus 0 and minus 0.0003 inch. Made by **Tungsten Carbide Tool Co.**, 2661 Joy Rd., Detroit 6, Mich.

▲ Mention Item NED-6015 when writing ▲

Don't BURN Paper CONVERT IT!

AIRFLUFF PAPER SHREDDER MAKES EXCELSIOR OUT OF CONFIDENTIAL PAPERS, BLUEPRINTS OR ANY WASTE PAPER

Here's the machine that destroys paper yet saves it! The AIRFLUFF Paper Excelsior Shredder, easily shreds, separates and fluffs old newspapers, confidential papers, blueprints, magazines, waste paper, corrugated cartons, tissue, Cellophane and waxed paper. Low price, simple to install. Power and maintenance cost less than 2c per 100-pound bale. Absolutely safe—present employees can easily operate. Cuts in widths from ⅛" to ⅜". Model No. 14 shreds 600 to 1800 lbs. per hour. Model No. 10 shreds 200 to 800 lbs. per hour. Write today for prices and complete facts about these remarkably simple, sturdy and efficient new AIR-FLUFF Paper Shredders.

WRITE TODAY

MITTS & MERRILL • SAGINAW, MICH.
1000 SOUTH WATER STREET
BUILDERS OF MACHINERY SINCE 1854

▲ Mention Item NED-6016 when writing ▲

NEW! WET-CUTTING MODEL FOR ULTRA HIGH SPEED METAL CUTTING
JOHNSON
METAL CUT-OFF BANDSAW

DRY CUTTING MODEL Also Available

CAN ALSO BE ADAPTED TO EXISTING JOHNSON DRY-CUTTING BANDSAWS

The Johnson Coolant Model offers unusual advantages for production requiring exceptionally high-speed . . . on some jobs increases as high as 200% can be attained . . . Longer blade life assured!
- NO SEPARATE MOTOR REQUIRED—one power source does cutting and operates coolant pump. No special wiring or switches necessary.
- COOLANT FLOWS AUTOMATICALLY—Machine speed controls flow of coolant in direct proportion to speed of blade.
- BLADE WIPERS remove coolant after cutting; no danger to bearing lubricants.
- PUMP SHAFT runs on bronze bearings, quietly, efficiently; handles any cutting fluid.
- DRY CUTTING may be handled by simply disconnecting pump.

JOHNSON MFG. CORP. ALBION, MICH.
Write today for descriptive literature to Sales Office, 5004 Chrysler Bldg., New York

▲ Mention Item NED-6017 when writing ▲

✓ CHECK WITH LINK-BELT *for* MAINTENANCE PARTS SERVICE

Keep the wheels turning. Prevent over-worked machines and equipment from breaking down. Frequent and thorough inspection of your equipment will detect potential failures, and prompt attention to extra care and maintenance will avert major repairs.

Check your power transmitting equipment now and place orders for parts likely to require early replacements.

LINK-BELT COMPANY
Chicago 8 & 9, Philadelphia 40, Indianapolis, Atlanta, Dallas 1, San Francisco 24, Toronto 8.
Offices, warehouses and distributors in principal cities

0917

LINK-BELT

▲ Mention Item NED-6018 when writing ▲

GET THESE FACTS ABOUT CRANES!

Valuable Free Bulletin tells you the very things you want to know

. . . construction and mechanism of cranes, specialized and general installations, tables, diagrams, and other useful information.

MAIL THE COUPON TODAY!

ROBBINS & MYERS • Inc.
HOIST & CRANE DIVISION • SPRINGFIELD, OHIO

Please send the new 16-page R & M Crane Bulletin No. 825 NED

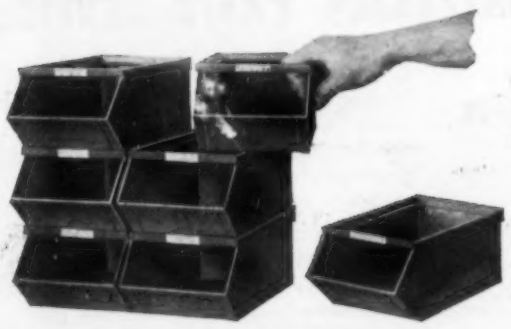
Name.....*Position*.....
Firm.....
St. Address.....*City & State*.....

▲ Mention Item NED-6019 when writing ▲

Chicago Rivet AND MACHINE CO.
9606 W. JACKSON BLVD., BELLWOOD, ILL. (Chicago Suburb)
TUBULAR AND SPLIT RIVETS IN ALL RIVET METALS

▲ Mention Item NED-6020 when writing ▲

We have been given permission by WPB to manufacture Stackbins to be used as portable containers for production and assembly.



Save Time and Labor Handling Parts and Materials

Patented *Stackbins* keep parts and materials instantly accessible—eliminate waste hand motions—stack rigidly to form units of exactly the right shape and capacity at the point of assembly—save time and labor handling parts and materials.

Write today for full details and prices on all-welded steel *Stackbins*. Stackbin Corp., 71 Troy St., Providence, R. I.

STACKBINS
"STACKED AND STILL ACCESSIBLE"

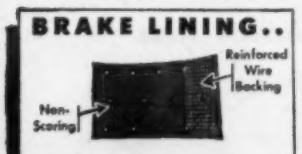
▲ Mention Item NED-6021 when writing ▲

WAGNER Crane Brake MAINTENANCE

No matter what your crane bridge brake requirements may be, you can look to Wagner for complete hydraulically actuated bridge braking systems for either new cranes or for conversion from mechanical brakes.

Wagner hydraulically actuated bridge braking systems are available in two types—type H for inside cranes, and type HM for outside cranes where automatic parking attachment is necessary. Both systems come to you ready to install, and include brake assembly, brake wheel, master cylinder, wheel cylinder, tubing, flexible hose, brake fluid and all fittings.

BRAKE LINING..



Wagner brake lining is preformed in blocks to fit all makes and sizes of crane brakes.

Send for BULLETIN IU-20

FIELD ENGINEERING SERVICE

Wagner's 29 branch offices are manned by trained field engineers competent to solve your braking problems. They will gladly consult with you and make recommendations.

143-3

Wagner Electric Corporation
ESTABLISHED 1891
6477 Plymouth Avenue, St. Louis, Mo., U. S. A.
ELECTRICAL AND AUTOMOTIVE PRODUCTS

▲ Mention Item NED-6022 when writing ▲

COOLANT PUMP

Equipped with integral flange bracket for reservoir cover or bed-plate mounting, model No. 9040 immersed type motor driven Gusher pump is designed for installation interchangeability with model 1-P3 pump. This model is available in any current characteristics, including 25-cycle, 1, 2, or 3-phase.

The ¼-horsepower operating motor is full ball bearing, totally enclosed with one piece rigid shaft which extends to pump impeller. Pump is made in two lengths. Dimensions from mounting flange to bottom of pump are 6-7/16 and 8-7/16 inches respectively. It can be had with either ½ or ¾-inch pipe size discharge. Made by **The Ruthman Machinery Co.**, 1810 Reading Rd., Cincinnati, O.

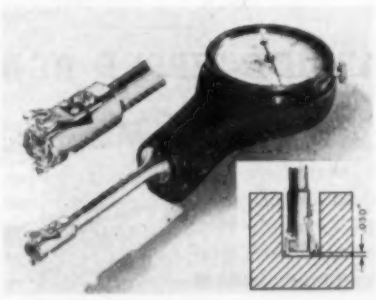
▲ Mention Item NED-6023 when writing ▲

CLEANER & RUST PREVENTIVE

Used directly as shipped, Macco No. 10 solvent is combination cleaner and rust preventive. It leaves light, tough film of rust inhibitor on treated parts which offers effective protection under normal storage conditions. Machined pieces may be dipped directly into material as they are removed from machining operations. This removes chips, cutting oils and other foreign matter and prevents corrosion of parts during subsequent handling, inspection and storage. Protective film will not interfere with inspection or clog precision gages. Made by **The Macco Products Co.**, 525 W. Seventy-sixth St., Chicago, Ill.

▲ Mention Item NED-6024 when writing ▲

BLIND HOLE GAGE

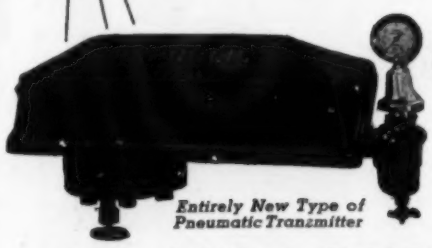


Enabling inspector to explore inside diameter, out-of-roundness, taper and other conditions of blind holes to within 0.03 inch of bottom, this blind hole gage is made in two sizes. Illustrated model 1201 P-20 requires five extensions and provides range of 0.500 to 0.750 inch. Model 1201 P-21 uses eight extensions for range of 0.750 to 1.250 inches. Standard gaging lengths are 3 and 6 inches in both models. Graduated indicator has increments of 0.0001, dial range of 0.0015-0-0.0015 inch, and range of contact points of minus 0.005 to plus 0.003 inch.

Highly sensitive and accurate, instrument features spring suspended moving parts in head which practically eliminate operating friction, lost motion and wear. No bushings ore bearings are required. Reasonable amounts of oil, coolant or dirt do not affect accuracy. Gage measures diameter directly and it can be set to master, gage blocks or micrometer. Made by **Federal Products Corp.**, 1144 Eddy St., Providence, R. I.

▲ Mention Item NED-6025 when writing ▲

Something New Under the Sun



Entirely New Type of Pneumatic Transmitter

REPUBLIC PNEUMATIC FLOW AND LEVEL TRANSMITTER

Operates Like a Weigh-Beam

Thorough 2 Years Field Test Proves:

- **Speed** . . . . . Follows flow changes almost instantaneously. With 500' ¼" O. D. tubing, change registers in 15 seconds.
- **Accuracy** . . . . . Transmitting pressure vs measured differential guaranteed within ½ of 1% meter range.
- **Sensitivity** . . . . . Hysteresis loop less than 1/20 of 1%.
- **Lower Maintenance** . . No mercury needed. Thus installations are simplified and maintenance cost reduced. All standard parts. No special tools.
- **Old Hazards Eliminated** . No need to pipe infammable—poisonous—explosive fluids to control room.
- **For Light or Heavy Oils** . No seal liquid. No need to heat seal pots and connecting lines.

Unaffected by Temperature or Vibration

Write for Bulletin No. 43-4

REPUBLIC FLOW METERS CO.
2245 Diversey Parkway Chicago, Illinois

▲ Mention Item NED-6026 when writing ▲

A Suspension Magnet with GREATER PROTECTIVE ABILITY

THE Dings *High Intensity* Rectangular Suspension Magnet is designed for use above belt conveyors or in chutes to remove tramp iron that would damage crushers or grinders or cause fires due to sparks. The double gap design produces a deep even flux penetration across the entire face of the magnet. Because of this the magnet can be smaller, lighter and less expensive than other types of suspension magnets. ASK for CATALOG 301.

DINGS MAGNETIC SEPARATOR CO.
520 E. Smith St. • Milwaukee 7, Wisconsin

▲ Mention Item NED-6027 when writing ▲

Mediterranean Invasion Landing (Official Signal Corps photo). Roustabout Cranes are hustling war materiel at home and overseas

The Free-Roving Tractor-Footed ROUSTABOUT CRANE assures you low-cost delay-proof

Roustabout Crane handles giant bomber wing . . .

Magnet makes it a speedy war-scrap handler

Load-Handling

WHEN YOU HAVE heavy bulky stuff to move, load or stack, Roustabout Crane is a whole crew of husky stevedores—tireless, always ready, easy to operate. Where you want it when you want it, it prevents delays, keeps things moving. Handles 5 tons without a grunt. Wheels or crawler tracks, all tractor power, ball-bearing boom turntable, gears in oil, full boom swing. Invaluable around war-busy factories, airports, railroads, docks and warehouses, where they're going by hundreds these days. For fast action now . . . for post-war cost-cutting . . . write today for the facts.

THE HUGHES-KEENAN CO.
565 Newman St. Mansfield, Ohio

ROUSTABOUT CRANES
By Hughes-Keenan
Load-Handling Specialists Since 1904

▲ Mention Item NED-6028 when writing ▲

AFTER THE WAR *New Horizons!*

With the "GO" signal . . . rapid strides in all industries will fill the gap occupied by war.

And PALMER will give you a full dollar value with the Finest Thermometers ever to be made.

In your Post-War Plans . . . you don't want to forget that Palmer Thermometers have an important place in your plant.

Today, for GOOD Thermometers remember:

1. Easy-reading "Red-Reading-Mercury"
2. Guaranteed accuracy
3. Built for long life.

Write for Catalog

THE PALMER COMPANY

Mfgr. Industrial, Laboratory Recording & Dial Thermometers

2523 NORWOOD AVE., CINCINNATI, NORWOOD, O.

Canadian Plant: King & George Sts., Toronto

▲ Mention Item NED-6029 when writing ▲

Keep Scrap off the Floor. Make it Easier to Handle— . . . Save Valuable Materials with

LITTELL SCRAP WINDERS

No. 3G and 5G LITTELL Patented Motor-Driven Scrap Winder and Automatic Centering Reel. Capacities, 300 and 600 lbs.

SAVE scrap, prevent waste, and keep floors clean for faster, safer production—with Littell SCRAP WINDER shown. It is readily convertible into an Automatic Centering Reel by changing direction of motor.

As an Automatic Reel this unit is ideal for handling heavier types of coils and for feeding at higher speeds. Motor-driven, ball-bearing, with adjustable arms and stock control.

Besides Reels, Winders and Cradles, LITTELL makes Roll and Dial Feeds, Straightening Machines, Air Blast Valves and Nozzles, Pres-Vac Safety Feeders and Mechanical Pickers, Scrap Cutters, etc.

ASK FOR BULLETINS

SPEED WITH SAFETY

F.J. LITTELL MACHINE CO.
4161 RAVENSWOOD AVE., CHICAGO, ILL.

▲ Mention Item NED-6030 when writing ▲

USE THE *Right* FILE
on repairs, overhauls, fix-ups!

You can then file better, with less effort. When you need a double-cut machinists' file for removing metal rapidly, the chart will help you make the right selection.

NAME	CROSS SECTION	CHARACTER OF TEETH	GENERAL USES
Flat	▭	Double-cut. Usually bastard. Also second-cut and smooth.	A general purpose file employed for a great variety of work.
Hand	▭	Double-cut. One edge safe. Usually bastard. Also second-cut and smooth.	Finishing flat surfaces.
Pillar	▭	Double-cut. Usually two edges safe. Bastard, second-cut and smooth.	Keyways, slots, narrow work.
Warding	▬	Double-cut. Usually bastard. Also second-cut and smooth.	Filing ward notches in keys. Narrow work requiring thin file.
Square	□	Double-cut. May have one side safe. Bastard, second-cut and smooth.	Tapered file is used principally for enlarging holes or recesses of square or rectangular shape. Blunt file is used for finishing or enlarging mortises, keyways and splines of considerable length.
Three-Square	△	Double-cut. Sharp teeth. Usually bastard. Also second-cut and smooth.	Filing acute angles, corners, grooves, notches. Don't confuse with triangular or three-cornered single-cut saw files.
Round	○	Single-cut and double-cut. Usually bastard. Also second-cut and smooth.	Enlarging holes; shaping curved surfaces.
Half-Round	◠	Double-cut. Usually bastard. Also second-cut and smooth.	Concave corners, crevices, round holes.
Knife	◥	Double-cut. Safe back. Usually bastard. Also second-cut and smooth.	Cleaning out acute angles, corners, slots.

HELLER BROTHERS COMPANY • Newark, N. J. • Newcomerstown, Ohio

America's Oldest File Manufacturers — Good Tools Since 1836

HELLER NUCUT FILES WAVY TEETH

PAT NO 2027039

▲ Mention Item NED-6031 when writing ▲

ELECTRONIC CONTROL UNIT

Adaptable to wide variety of control applications, Flashtron electronic package unit is used in conjunction with primary sensitive element and power operating or control element. Complete system incorporating electronic unit makes practicable close approach to zero tolerance in regulating variables occurring in industrial processes such as pressure, temperature, liquid level, flow, speed motion, voltage, air, fuel relation, specific gravity and gas analysis.

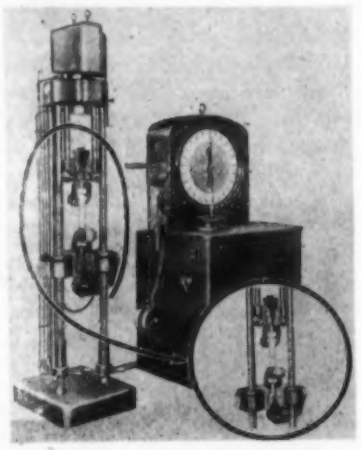
Requiring negligible power for actuation, unit furnishes required power for operating elements. Supersensitive primary actuating elements of many types may be used and output circuits accommodate alternate energizing of loads within range of instrument which may be connected to it. These might be motors, motor driven power control elements or other types of electrical loads such as heating elements.

One of two output circuits is always energized, but both cannot be energized simultaneously with contactor type actuating devices. Dual circuit is especially suitable for control of proportioning or positioning control. Response to primary impulse is almost instantaneous. Being electronic, there are no moving parts and no inertia to be dealt with. It is silent in operation. Device is housed in steel box with provision for easy connection to 115-volt 60-cycle alternating current power line, to actuating circuit and two control connections. Made by **Thordarson Electric Mfg. Co.**, 500 W. Huron St., Chicago, Ill.

▲ Mention Item NED-6032 when writing ▲

PARACHUTE WEB TESTING

Designed for testing strength and resilience of webbing of parachutes, this hydraulic testing machine measures all breaking loads by gravity stress acting on pendulum. This assures continued accuracy for there are no parts of weighing mechanism which are subject to changed characteristics due to metal fatigue.



Machine has maximum loading capacity of 10,000 pounds but can accurately register load tests as low as 50 pounds. Special type web grips enable quick, easy attachment to ends of samples up to 3 inches wide. Maximum testing speeds up to 12 inches per minute enable making of sixty tests per hour. Operation is foolproof, manufacturer claims. Made by American Machine and Metals, Inc., **Riehle Testing Machine Div.**, New Tolhurst St., East Moline, Ill.

▲ Mention Item NED-6033 when writing ▲

Sly Dust Filter in a factory operation exhausting 10,800 cu. ft. of air per minute.

SAVE MANPOWER WITH SLY DUST CONTROL

Valuable man-hours are being saved, production increased, quality of products improved, machinery and equipment life lengthened through Sly Dust Control. ● Sly Dust Filters (heart of the system) embody these *exclusive* features:

1. Greater filtering capacity
2. Taut bags (patented)
3. Bags more easily replaced
4. Automatic control (any degree)
5. Simpler shaker mechanism

Ask for Bulletin 98

SLY **THE W. W. SLY MFG. CO.**
4748 TRAIN AVE., CLEVELAND, O.
INDUSTRIAL DUST CONTROL

▲ Mention Item NED-6034 when writing ▲

1000 Combinations of Welding Heat

...with REMOTE CONTROL ... and other great features.

Not a single "dead-spot" in entire welding range due to the 10 overlapping ranges HOBART provides.

Nothing has been spared in making Hobart the best welder on the market. Extra features like Remote Control, Dual Control, Polarity Control, and End to Center Cooling are features that you can't overlook. Write today for details.

PROMPT DELIVERIES *Send Priority Rating when Ordering*

CATALOG FREE!

PLANNING FOR POST-WAR? New "Practical Design for Arc Welding, a series of hundreds of helpful suggestions for welded design, First issues FREE!

HOBART *"Simplified"* **ARC WELDERS**

HOBART BROTHERS CO., Box, ND-113, TROY, OHIO

"One of the World's Largest Builders of Arc Welders."

▲ Mention Item NED-6035 when writing ▲

Lighten the Load— Speed the Work—

WIRE TOTE BASKETS

Here's why Union Steel WIRE TOTE BASKETS deserve serious consideration as a way of speeding production, saving manpower and cutting costs: High visibility simplifies inspection Lighter weight eases handling Better for dipping because of more thorough and rapid draining without waste of liquid ..Availability in great variety of standard sizes and shapes ... Or custom-made to meet special needs. Write today for illustrated bulletins

UNION STEEL PRODUCTS COMPANY
400 Pine Street, Albion, Michigan

UNION STEEL PRODUCTS

▲ Mention Item NED-6036 when writing ▲

FIRST AID FOR THE 25th HOUR OF YOUR DAY

In that 25th hour of the day you reserve for your future products, you can probably use the information contained in these Synthane folders. In our 25th hour, we'll be glad to send them along. Just say which you need.

SYNTHANE
TECHNICAL PLASTICS

SHEETS • RODS
TUBES • FABRICATED
PARTS • MOLDED-
LAMINATED • MOLDED-
MACERATED

SYNTHANE CORPORATION,
N. E. River Road, Oaks, Penna.

Please send me the Synthane folders I've checked:

- ☐ Synthane Tubes
- ☐ Corrosion Resisting Synthane
- ☐ Synthane Gear Material
- ☐ How to Machine Synthane (including Standards of Quality)
- ☐ Synthane Technical Plastics for Industry

*Name*_____
*Title*_____
*Company Name*_____
*Address*_____
*City*_____ *State*_____

▲ Mention Item NED-6037 when writing ▲

▲ Mention Item NED-6038 when writing ▲

High-efficiency Individual Unit . . . easily adapted to Continuous Runs.

Compare this *Skilled Lighting* with other Fluorescent Units!

Compare the 1943 Wheeler RLM Fluorescent Fixture with any other unit meeting WPB requirements. Even its appearance unmistakably shows sound, simplified engineering!

Wiring channels are hollow steel I-beams . . . light-weight, rigid. Durable reflectors of non-flammable, moisture-resistant material have reflection factor not less than 85%.

Made in 2 and 3-lamp 48" units; 2-lamp 60" units. "C-Clamp" Hangers permit conduit, cable, rod or close-to-ceiling suspension. Loops at each end of wiring channel provide for chain suspension.

Write for Bulletin 72. **Wheeler Reflector Co., 275 Congress St., Boston 10, Mass. . . . New York City.** Representatives in principal cities.

Distributed Exclusively Through Electrical Wholesalers

Wheeler REFLECTOR COMPANY
Lighting Equipment Specialists Since 1881

▲ Mention Item NED-6039 when writing ▲

"We saved the labor of two persons by the use of Silverstitcher."
Gen'l. Supt., Chicago Manufacturer

REPLACE LABOR SHORTAGE WITH ACME *SilverStitcher*

—And you can save money, too. This improved stitching equipment assures faster, easier box stapling. In some plants, output has been doubled, costs cut and complete satisfaction is the rule wherever Silverstitcher is in use.

A Silverstitcher To Meet Your Need. Sturdily built Silverstitcher is made in various sizes and types to meet your requirements. Many exclusive features mean quiet, trouble-free, speedy operation. Sold under *guarantee.*

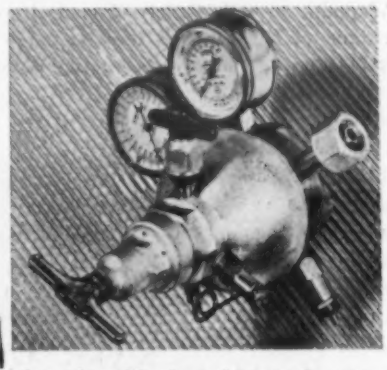
Get the facts.—Write for FREE Booklet giving complete details about the Silverstitcher.

Free! BOOKLET

ACME STEEL COMPANY
2822 ARCHER AVE., CHICAGO, ILLINOIS
Branches and Sales Offices in Principal Cities

▲ Mention Item NED-6040 when writing ▲

GAS PRESSURE REGULATOR



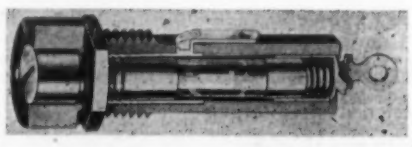
Available for inlet pressures up to and exceeding 4,000 pounds per square inch and for delivery pressure up to and including 1,000 pounds per square inch, model No. 4000-1000 pilot type pressure reducing regulator is designed particularly for refilling to 400 and 800 pounds per square inch, smaller cylinders from manifold systems. It is also adaptable for other similar purposes.

Pressure accuracy is obtained through gas-loaded diaphragm, which is so constructed that damage to or rupture of diaphragm is practically impossible. Loading pressure of main regulator is controlled by internal pilot regulator, tension screw of which is so arranged that it will not permit diaphragm loading pressure beyond predetermined maximum. Any pressure loss is automatically compensated for by this arrangement. Should loading pressure exceed desired maximum, adjustable relief valve reduces this pressure to normal. If operator wishes to diminish previously set operating pressure, he releases tension screw of pilot regulator and exhausts dome pressure by non-leaking release valve.

Other types of Gas-O-Dome regulators are available for primary and delivery pressures of 5,000 pounds per square inch and higher. One model of similar design will provide for maximum hourly gas requirements exceeding 100,000 cubic feet for working pressures up to 150 pounds per square inch. Made by **Victor Equipment Co.**, 846 Folsom St., San Francisco, Calif.

▲ Mention Item NED-6041 when writing ▲

FUSE EXTRACTOR POST



Side terminals of improved fuse extractor posts are electrically welded to metal shell inside bakelite body and are backed up by soft solder so as to form one-piece connection which will withstand vibration permanently. Illustrated unit is for 3 AG 1¼ x ¼-inch diameter fuses. No. 1075 for fuses to 15 amperes is used for radios, amplifiers, fractional horsepower motors, magnets, control circuits, relays, rectifiers and other electrical equipment. It is furnished for screwdriver operation, meeting Underwriters' Laboratories specifications, or for finger operation.

Knob and body are molded of black bakelite which is impervious to temperature changes and corrosion. Ample spacing between live parts gives protection against electrical leakage. Tool-operated types have red knob. Fuse grip permits full visual shockproof inspection of fuse. Spring activated cup at bottom insures positive and continuous electrical contact.

Knob pulls out fuse and holds it. Special grip prevents fuse from dropping out and fuse can be removed from knob only by hand. Made by **Littelfuse Inc.** 4743 Ravenswood Ave., Chicago 40, Ill.

▲ Mention Item NED-6042 when writing ▲

HEINEMANN "Re-Cirk-it"

protects the motor on this DE WALT WOODWORKING MACHINE against burnouts and locked rotors when overworked during periods of peak production. Opens instantly on short circuits. Permits harmless overloads and starting surges.

HEINEMANN CIRCUIT BREAKER CO.
Subsidiary to Heinemann Electric Co. Est. 1888
106 PLUM STREET TRENTON, N. J.

▲ Mention Item NED-6043 when writing ▲

Faster, Better DE-BRRI
FINISHING POLIN

In Fewer Operatio

Brightboy offers you outstanding time and work savings, plus quality, precision finish, because it is made of *resilient rubber.* The rubber is *impregnated throughout* with the abrasive.

WHEELS
STICKS
RODS
TABLETS
for manual and machine operations

In use, the abrasi les sligh the rubber, cushio abrasiv The degree of finis ved by ing the machine sp manu tions, the hand . Bri versatility and wo plicity many in-between s; a B finish frequently the fin The waste *drops,* eraser doesn't fly. No sp ps are

Ask your distrib Meth Applications Data gs and

WELDON BERT
Bright

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NEW!

This attractive bulletin contains 24 pages of data covering roller and frame sizes, roller and bearing construction, curves, supports, special devices, couplings, light wheel units, ball transfers, and typical installations. It can be of considerable help in planning Gravity Roller Conveyer applications. Your copy will be sent immediately upon request.

MATHEWS CONVE

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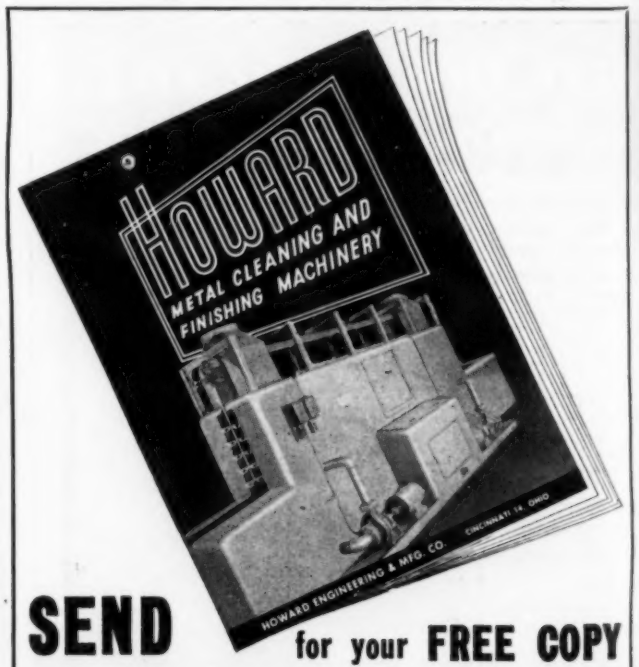

SEND for your FREE COPY

CONTAINS NEW DATA *and* APPLICATIONS *for* METAL CLEANING *and* FINISHING MACHINERY

HOWARD ENGINEERING & MFG. CO.
1050 HULBERT CINCINNATI 14, OHIO
ENGINEERING for PRODUCTION CLEANING

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ERRING

LIING

ations

...des slightly into ...abrasive action. ...ved by regulat- ...n manual opera- ... Brightboy's ...plicity eliminate ...ns; a Brightboy ... the final polish. ... eraser crumbs; ...ps are required.

...Methods and ...gs and prices.

Brightboy field representatives are at your service.

AVAILABLE IN 3 TEXTURES

BRIGHTBOY STANDARD—for all around metal finishing.
BRIGHTBOY FINE-TEX—for lighter work—for fine polishing.
BRIGHTBOY TUFF-TEX—for harder metals.

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO., Newark, N. J.

ON BERTS
lt b o y
REG. U.S. PAT. OFF.

...en Mention Item NED-6049 when writing ▲

HANDY BULLETIN

On Roller Conveyers

...HEWS CONVEYERS FOR MECHANIZED PRODUCTION

VE COMPANY ELLWOOD CITY PENNSYLVANIA

...Item NED-6049 when writing ▲

PRECISION MEASURING UNIT

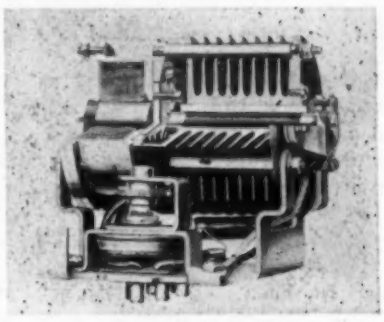
Adaptable for precision measuring of both internal and external dimensions, this instrument affords accuracy, utility and convenience of use. It can be used for checking master and working ring gages, for setting snap and length gages and for other precision work when used as internal dimension comparator. Device will check diameters or other internal dimensions ranging from ¾ to 12 inches and will explore holes to depths of 3 inches. Taper, bell-mouth and out-of-round conditions can be determined and measured.

When used as external comparator, instrument will check rounds, straights and tapers within maximum dimension of 12 inches. Gaging arms are raised and lowered by electrical mechanisms operated by two pushbuttons. Automatic stops prevent arms from raising or lowering beyond 3-inch range limits. Direct-reading visual counter which is graduated in hundredths of inch serves as automatic height indicator.

Electric gaging head provides magnification of 2500 to 1. This device is claimed to afford stability of magnification, positive action of indicator and repeated accuracy of readings. Scale has range of 0.0012 inch and is graduated to 0.000050 of inch. Graduations are spaced sufficiently to permit interpolation of readings to 0.0000125 inch. Made by **The Sheffield Corp.**, 1530 E. Third St., Dayton 1, Ohio.

▲ Mention Item NED-6050 when writing ▲

VOLTAGE REGULATOR



Applicable particularly for all types of aircraft electric generating systems, type 1042 carbon pile voltage regulators are designed to control voltage of 24-volt current supplied by engine driven generators rated at 1.5 to 6 kilowatts. Device consists of stack of carbon discs held in supporting housing which incorporates fins to dissipate heat. Carbon contact plugs at either end provide electrical contact to carbon pile.

Regulation is accomplished by increasing or decreasing pressure on stack of carbon discs by series of radially arranged leaf springs which are controlled by electromagnet. Single magnet is actuated by generator voltage, constant voltage being maintained without lag or fluctuation. Magnet has main shunt winding and additional load compensating winding for use when generator is operated in parallel with other generators. Regulator is impervious to airborne foreign matter.

Unit may be used in conjunction with any 30-volt generator which requires resistance range of 0.7 to 55 ohms and wherein maximum regulated wattage will not exceed 75 watts continuously. With blast cooling, regulator may be operated continuously at 100 watts. Made by Eclipse-Pioneer Div., **Bendix Aviation Corp.**, Williams Ave., Teterboro, N. J.

▲ Mention Item NED-6051 when writing ▲

Copper Brew Kettle covered with 2½" coating of B-H No. 1 Cement and finished with B-H Weatherseal.

Use B-H WEATHERSEAL to Protect Exposed Insulation

Cover all insulation exposed to infiltration of water or moisture with B-H Weatherseal. This Baldwin-Hill product is an emulsified, asphalt compound furnished ready-mixed in plastic form. By reason of its exceptionally high coverage and low percentage of shrinkage, the per square foot cost is low. One hundred pounds will cover 55 square feet of surface ¼ inch thick. After drying, dehydration reduces the thickness to ⅛ inch, giving a smooth, complete seal over the entire area. You simply trowel it on. Stays permanently black—no fading or spotting. Send for generous sample of B-H Weatherseal and test it yourself.

BALDWIN-HILL CO.
541 KLAGG AVE. • TRENTON 2, N. J.
NEW YORK, N. Y. • CHICAGO, ILL. • HUNTINGTON, IND. • KALAMAZOO, MICH.

▲ Mention Item NED-6052 when writing ▲

SPEEDY AIR VISE

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

• Speedy Air Vise helps workers get out more and better work—in less time! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce. Operates from air line or individual compressor, exerting a grip of 15 times air line pressure. Jaw opens up to 3 inches, easily fitted to hold castings, parts, jigs, etc. Speeds up every drilling, light milling, tapping and assembly operation. Compact, sturdy, trouble-free, low in cost! ••••• *Speedy Air Vise, complete with Foot Control Valve, Air Hose and Fittings, only* $24

Prompt Delivery from Your Supplier or Write Direct.

W. R. BROWN CORPORATION
5716 Armitage Avenue • Chicago 39, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

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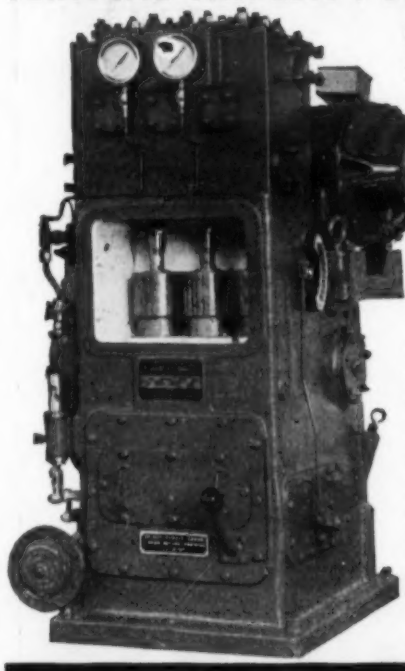
★★★ **the New ALDRICH-GROFF**

CONSTANT SPEED—CONTROLLABLE CAPACITY

VERTICAL TRIPLEX PUMP...



For Services Including...

- BOILER FEED
- DESUPERHEATING
- PIPE LINES
- PROPORTIONING
- PROCESS AND STILL CHARGING
- HYDRAULIC PRESS

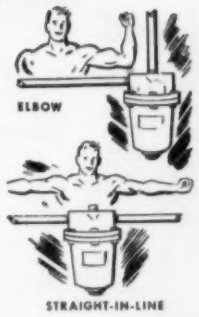
For constant speed A.C. electric motor or turbine drive. Low starting torque, with delivery infinitely variable from O to maximum rated capacity. For installations requiring automatic or remote manual control of output or pressure. Sizes from 11 to 100 HP with discharge pressures from 200 to 15,000 p. s. i.

Send for Data Sheet #65

THE ALDRICH PUMP COMPANY
4 GORDON STREET • ALLENTOWN • PENNA.

▲ Mention Item NED-6054 when writing ▲

LET'S STRAIGHTEN OUT these contortionists

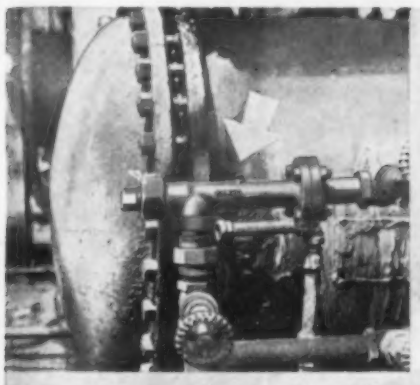


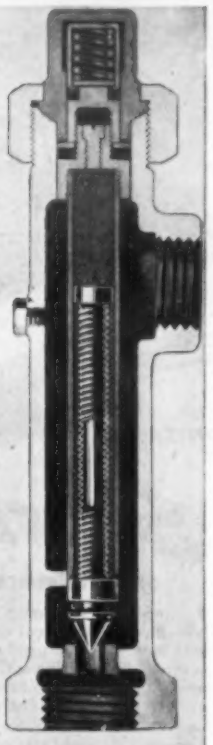
• Years ago our steam trap piping frequently looked like the freak contortionist of circus and stage. Let's straighten out these contortionists in future steam trap piping by installing only ANDERSON SUPER-SILVERTOP STEAM TRAPS, the inverted bucket steam trap that is piped straight-in-line or as an elbow . . . that requires no extra fittings . . . that saves an hour of installation time per trap . . . that brings you greater condensate capacity, positive operation, ease of inspection and a longer service-life.

These advantages of Anderson Super-Silvertop Steam Traps are described in the free booklet, "How to Choose a Steam Trap," which is yours for the asking.

THE V. D. ANDERSON COMPANY
1932 WEST 96th ST. • CLEVELAND, OHIO

▲ Mention Item NED-6055 when writing ▲





A steam trap and temperature control in one

It's the low cost Sarco liquid expansion trap, that is used by the hundreds in refineries, coal, chemical and other industries that have outdoor steam operations. It can't freeze.

Also in various forms, can be used as a steam injector, or a tank temperature control. Ask for Catalog No. 550.

No. 87

SARCO SARCO COMPANY, INC. 475 Fifth Avenue, New York 17, N. Y.
SAVES STEAM SARCO CANADA, LTD., 85 Richmond St. W., TORONTO, ONT.

▲ Mention Item NED-6056 when writing ▲

We wish you would try *all* air vises

THE AIRLOX SENIOR. 8½ x 22⅝ inches. Gripping force fifty times air line pressure.

Take several air vises having the rated capacity needed for one of your own machine tool operations. . . . and check the lock-up pressures *in production* for each vise.

We think that for fast operation and gripping force you will prefer an Airlox vise.

They are designed like all good machine tools . . . with the weight, substantial construction and balance needed to stand up under hard usage.

Airlox vises may be synchronized with machine operation or manually operated. There are 6 Airlox models . . . providing gripping force 4 to 50 times air line pressure. Write for specification sheets.

production devices incorporated
Whitehall, New York
P. O. Box 209

AIRLOX production vises

2108

▲ Mention Item NED-6057 when writing ▲

Investigate the 1000 lb. capacity
ELECTRIC PONY EXPRESS

One girl replaces 6 men

Quickest stop-and-go Plant Pick-Up

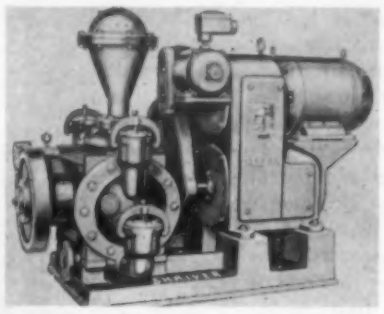
Not a lift truck but America's fastest, safest factory pick-up (note operator's convenient driving position)—18 square feet platform capacity (36" x 78")—carries merchandise longer than the truck—speed to 6 miles per hour in either direction—foot operated hydraulic brakes—operates full shift without recharging or changing batteries—worm gear drive for quiet trouble-free service.

Write for catalog.

ROCKY MOUNTAIN STEEL PRODUCTS, INC.
1354 Wall Street • Los Angeles 15, California

▲ Mention Item NED-6058 when writing ▲

PUMP FOR LATEX



Specifically designed for handling synthetic rubber latex, this diaphragm pump offers many advantages. Activating mechanism does not come into contact with fluid being handled. Diaphragm at each end of double acting reciprocating unit seals off piston proper from liquid ends. There are no packings which would admit air into liquid ends and thus cause premature coagulation.

Entire liquid end of pump is completely filled with latex at end of suction stroke. Pressure stroke is result of pressure of piston against diaphragm. There is no occlusion of latex between piston and cylinder, thus minimizing turbulence. There is no excessive rubbing action at either intake or output ball valves. Synthetic resin enamel finish is used on all interior surfaces to make them as smooth as possible.

For maintenance or cleaning, removal of a few nuts permits removal of liquid ends, exposing all interior surfaces. Ball valves have large, easily removed covers for inspection and cleaning of balls and seats. Manifold is equally accessible.

Illustration shows duplex diaphragm pump with capacity of 45 to 50 gallons per minute. It is equipped with Varispeed motor drive. This machine is available in sizes from 1 to 100 gallons per minute, with liquid-exposed parts of any metal or alloy, rubber covered or enamel coated. Pressures range up to 100 pounds per square inch. Made by T. Shriver & Co., 815 Hamilton St., Harrison, N. J.

▲ Mention Item NED-6059 when writing ▲

MOTOR-ALTERNATOR SETS

Compact and light in weight, these two-bearing motor-alternator sets are available in integral ratings up to 5 kilovolt-amperes, single-phase, operating at 3600 revolutions per minute. Sets are designed for converting direct current to alternating current for various applications. In general, these include any applications which require alternating current power, such as radio and other electronic equipment of standard alternating current design.

In operation, direct current motor of set drives alternator, which has field connected in series with motor armature. Increase in alternator load causes increase in motor load, so that increased direct current is drawn from line. This greater current strengthens alternator series field, tending to maintain constant alternating current voltage.

Motor and alternator of sets are similar in that armature windings are on rotating elements and fields are stationary, being attached to frames. Solid shaft, supported by ball bearing at each end, serves to mount rotating members of both motor and alternator, thus eliminating number of parts and making saving in weight. Sets are easy to disassemble; complete rotating unit may be pulled out of stator merely by removing end shield. Made by Motor Div., General Electric Co., Schenectaday, N. Y.

▲ Mention Item NED-6060 when writing ▲

HERE'S ACTION.. FAST!

FOR YOUR SHIPPING ROOM

Outmoded stenciling equipment sabotages time. The automatic Marsh Fountain Brush obsoletes unsightly, wasteful ink-pot. Saves many hours per week in labor, 20% in ink. Pays for itself in 3 days. Send us your order at once or write for *all* the facts.

MARSH STENCIL MACHINE CO.
23 MARSH BUILDING
BELLEVILLE, ILL., U. S. A.

MARSH FOUNTAIN BRUSH

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TO MEASURE...

the Viscosity of Liquids Quickly and Accurately

AN economical, time-saving device—

Requires no special training to operate it.

Makes measurements in 30 seconds.

Call the nearest G-E office or write for Bulletin GEA-3618.

If you have ANY kind of measurement problem, call or write our nearest office for information on how the G-E Special Products Section can help you meet your individual requirements. General Electric Company, Schenectady, N. Y.

The G-E Zahn viscosimeter

800-0-8851

GENERAL ELECTRIC

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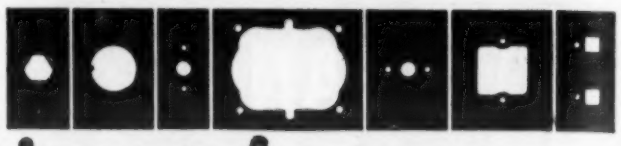

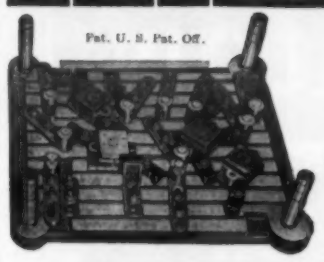

Pat. U. S. Pat. Off.

WHISTLER ADJUSTABLE DIES

Precision Perforating and Notching
READY FOR PRODUCTION

Multiply the production of your presses. More holes in given area—reduces "down" time—years of use in different pattern arrangements—complete interchangeability of parts—no special tools—in all standard sizes from 1/32". Whistler dies, tools and production machinery are used the world over.

Every Production Executive should have this Catalog. Write:

S. B. WHISTLER & SONS, Inc.
752-756 MILITARY ROAD BUFFALO, N. Y.

▲ Mention Item NED-6063 when writing ▲

JEFFREY PORTABLE BELT CONVEYOR

Troughed and flat belt types for efficient handling of all classes of loose material. Storage to truck—cars to storage—cars to truck . . . light weight units backed by years of satisfactory service. Also portable scraper conveyors, bucket loaders, car pullers and car unloaders.

The Jeffrey Manufacturing Company
Established 1877
952-99 North Fourth St. Columbus 16, Ohio

Baltimore, Birmingham, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Denver, Detroit, Harlan, Houston, Huntington, Milwaukee, New York, Philadelphia, Pittsburgh, St. Louis, Salt Lake City, Scranton

▲ Mention Item NED-6064 when writing ▲

IT'S NO TRICK AT ALL with TORIT

TORIT DUST COLLECTORS will solve your dust problems. Portable, and completely self-contained they fit into your present production layout and, when necessary, can be moved to meet changing conditions.

You can reduce absenteeism and maintain employees' health . . prevent excessive wear on valuable and irreplaceable machinery . . . by trapping abrasive dust particles at their source with TORIT Dust Collectors. For complete information write:

TORIT MANUFACTURING COMPANY
298 Walnut St.
St. Paul Minn.

TORIT Dust Collectors
SELF-CONTAINED UNITS

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Never Before— a Motor Like This

You've never seen a motor like this new Fairbanks-Morse Motor, because never before have so much stamina, versatility, and protection been built into one motor housing!

Check these points:

1. 40° C. Motor
2. Protected frame
3. Conduit box with features that give new meaning to "adaptable," "convenient," and "handy"
4. Famous Fairbanks-Morse COPPERSPUN Rotor—the ONLY rotor centrifugally cast in ONE piece and of COPPER

If you are buying motors now but want them to be up-to-date for postwar production, see this motor demonstrated. *There's no other way to appreciate how much more* it offers you! Fairbanks, Morse & Co., Fairbanks-Morse Bldg., Chicago, Ill.

Buy War Bonds

FAIRBANKS-MORSE
DIESEL ENGINES · PUMPS · MOTORS · GENERATORS · WATER SYSTEMS · SCALES · STOKERS · FARM EQUIPMENT · RAILROAD EQUIPMENT
Motors

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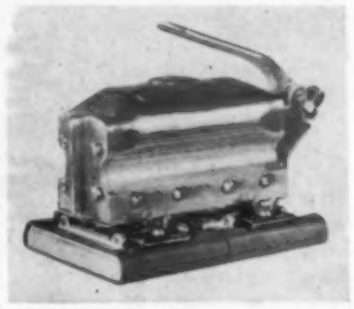
PNEUMATIC SANDER



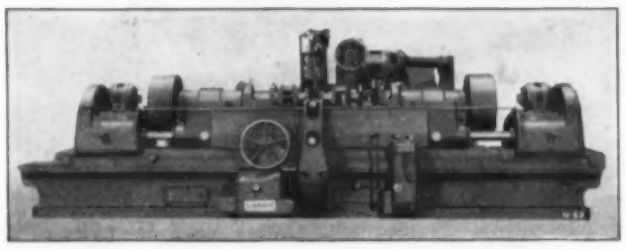
Weighing less than 6 pounds, model 1000 pneumatic sander was designed and built for all practical hand sanding and finishing operations. This small machine has speed of 3500 oscillations per minute and can be equipped with different types of sandpaper attachments for large or small, wide or narrow, flat or curved abraiding surfaces on metal, wood, plastics or composition.

Operation is obtained with pad movements started and controlled by palm lever fitted at top of machine housing. No turning of "on" and "off" switches is required. When machine is gripped to operate, reciprocating action of pads starts Upon release, machine automatically stops. Sander is free from vibration. Opposed pad action and balance of moving parts eliminate all vibration and improves qualities and uniformity of finished product. Uniformity of stroke and high speed of reciprocating pads materially increase life of abrasive paper by keeping paper surface substantially free from material particles. Made by Sundstrand Machine Tool Co., 2574 Eleventh St., Rockford, Ill.

▲ Mention Item NED-6067 when writing ▲

CRANK PIN GRINDER

Providing accuracy and high production, this 25-inch type DD crank pin grinder is available in four sizes for handling single and double throw radial engine crankshafts, in-line



liquid cooled engine crankshafts and numerous smaller sizes of diesel engine crankshafts. Sizes are 25 x 48, 25 x 80, 25 x 96 and 25 x 120 inches. Each work drive motor is 1 horsepower and wheel drive motor is 25 horsepower.

Dual work drive arrangement eliminates or minimizes objectionable axial deflection of crankshaft. Any out-of-balance condition is corrected by use of adjustable balancing weights. Latches hold two work fixtures in alignment during loading and unloading. Shoulder grinding attachment affords means for finishing crankshaft cheeks. Control is by means of handwheel with graduated dial.

Shafts are rigidly supported by stationary work rest, operated by quick-acting lever. Shoes do not interfere with table traverse when in inoperative position. Hydraulic straight in-feed mechanism has ample travel to obviate interference during work traversal. Rapid feed is 12 inches. Three controls, conveniently located at front of machine, afford control of direction of feed and adjustment of both fast and slow feeding movements. Microsphere bearings are used on spindle and 48-inch grinding wheel is standard. Made by Landis Tool Co., Chestnut & Sixth Sts., Waynesboro, Pa.

▲ Mention Item NED-6068 when writing ▲

THE FIRST WORD IN CONSTRUCTION THE LAST WORD IN WEAR!

"Big Fist" Shovels, made only by WOOD, are the *hard-wear* champions of the shovel field. They deliver more and better work, at less cost, with less effort . . . and they *last longer*. For real economy and super-service, specify "Big Fist" Shovels on your next shovel order.

THE WOOD SHOVEL AND TOOL COMPANY
PIQUA, OHIO

A NATIONAL ORGANIZATION
SPECIALIZING EXCLUSIVELY IN SHOVELS, SPADES AND SCOOPS

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Got War Production Problems?

HEIN-WERNER HYDRAULIC JACKS

(Model 30.11A)

of 3 to 30 tons capacity will enable you to easily

Bend Rods, etc.
•
Press Bushings
•
Move Machines
•
Lift Heavy Loads

Chances are you can do a lot of jobs in your plant quicker and easier with the use of Hein-Werner Hydraulic Jacks.

Purchasers of over a million H-W Hydraulics know that these jacks are super-powerful and easy-operating . . . Have many industrial applications . . . Available in models of 3, 5, 8, 12, 20 and 30 tons capacity.

For details, consult your nearest industrial supply distributor or write us.

HEIN-WERNER MOTOR PARTS CORP.
Waukesha, Wisconsin

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POOR COMMUNICATIONS COST 2000 LIVES

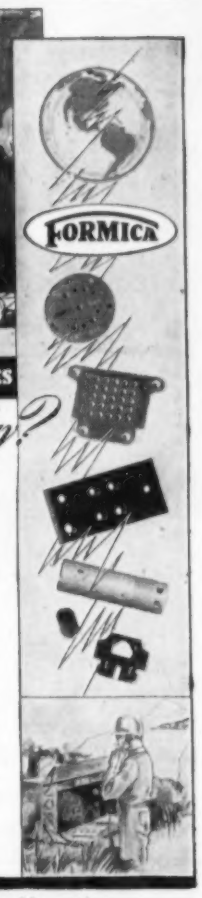
What about Ours Today?

THE unnecessary war of 1812 was declared two days after Lord Castlereagh announced in England that the "Orders in Council" (which caused the quarrel) would be repealed—but the Congress of 1812 didn't get the news in time.

The final battle of New Orleans, costing 2,000 lives, was fought fifteen days after peace was signed at Ghent—but the armies hadn't heard the news.

Today news, propaganda, and battle orders can girdle the globe in a second if communications equipment is functioning perfectly.

Radio parts made of Formica help civil and military communications function perfectly because of Formica's excellent insulating qualities at radio and audio frequencies. In addition, Formica is light, strong, tough, moisture resistant, and readily machined.



THE FORMICA INSULATION COMPANY
4639 Spring Grove Ave., Cincinnati, Ohio

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TOUGH ★ ACCURATE ★ STRONG

CHICAGO "SAFETY PLUS" PRODUCTS have great holding power

American industry, producing planes, tanks, ships, guns and machinery, has found that "Chicago Safety Plus" products "have what it takes"... This great line includes Socket Head Cap Screws, Socket Set Screws, Pipe Plugs, Stripper Bolts and Square Head Set Screws.

★ Order from your distributor ★

THE CHICAGO SCREW CO.
ESTABLISHED 1872
1026 So. Homan Avenue Chicago, Ill.

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DIAMONDS for Victory

BIG-HED-NIBS
LOC-KEY-SET

- Three grades of diamonds. Common Quality $12 per karat. Medium quality $24 per karat. Select quality $48 per karat. (Contour template diamonds supplied only in Medium and Select quality.)

All diamond sizes ¼ to 10 karat are nib mounted for immediate shipment . . . Billed subject to approval. Specify quality of diamond wanted. We recommend a minimum size of one karat for each 6" diameter of grinding wheel. (24 hour resetting service, $1.00 postpaid.) Grinders instruction card free.

RE-SET-ABLE

ooler dressing
loser Tolerances
licrometer Accuracy
ecause: Wing ke
eat dissipation an
bsolute diamond
ock nib.

he Most Complete and Up-to-he-Minute Line of Diamond Tools for Var Production. Send for Free Catalog.

IAMOND TOOL COMPANY, Not Inc.
Sheldon M. Booth, Pres.
38 E. 41st Street CHICAGO, ILL.

▲ Mention Item NED-6073 when writing ▲

You can with the FMC Automatic Multiple Head Screw Driver . . . in any pattern! For full information about the present and postwar possibilities of this machine, write to Food Machinery Corporation, Riverside, California.

FMC AUTOMATIC
NAILING AND SCREW DRIVING MACHINES

▲ Mention Item NED-6074 when writing ▲

SEE YOUR DEALER
OR WRITE DIRECT

V & E MANUFACTURING CO.
PASADENA • CALIFORNIA

▲ Mention Item NED-6075 when writing ▲

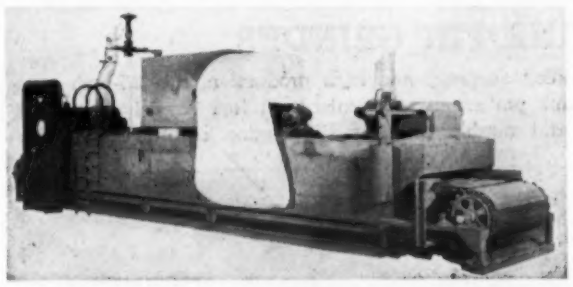
THICKNESS PLANER

Adaptable for use by boatyards, cabinet shops, furniture plants and firms engaged in war production, this 12 x 4-inch wood working planer will plane hard or splintery types of wood down to veneer-like thickness, ready for finishing without sanding. Two idler rolls mounted on adjustable journals afford powerful feed for stock as short as 6½ inches. Feed pressure is readily controlled and can be released without stopping machine. Bench or floor models are offered in direct or V-belt motor drives, or equipped for driving from lineshaft or gasoline engine. Made by **Boice-Crane Co., 951 Central Ave., Toledo, O.**

▲ Mention Item NED-6076 when writing ▲

CONTINUOUS DRAW FURNACE

Stress-relieving of armor-piercing shot is performed continuously in this draw furnace which is one of series of standard units available in various sizes, temperature ranges and ca-



pacities. This equipment is built for temperature ranges up to 900 degrees Fahr. Temperature uniformity is maintained at plus or minus three degrees throughout work zone. This same uniformity is obtained within work itself by passing air at extremely high velocity over work on conveyor belt and automatically turning work as it passes through furnace. High air velocity and rapid heat transfer brings work up to required temperature in relatively short time.

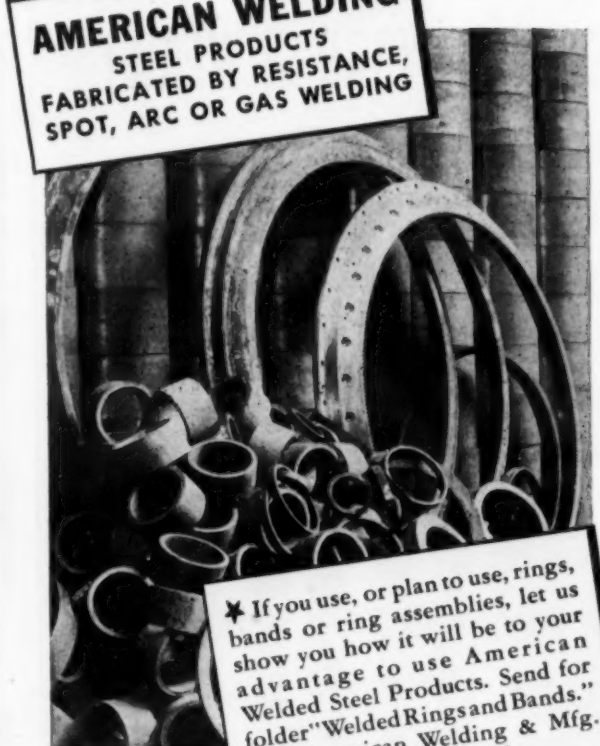
To protect operator from heat and fumes, ventilating hoods are available. These may be equipped with internal exhaust system. Where no operator is required for loading or unloading, it may not be necessary to have ventilating system.

Illustrated model is gas fired, but oil or electric heat units are available. Furnaces are designed for drawing, tempering and strain-relieving of various ordnance materiel, as well as for processing of cartridge links, clips and similar parts. Lower temperature range models may be used as dehydrogenizing ovens and for after-pickling, parkerizing and similar processes.

Controls are air operated and afford accurate regulation of fuel input over wide range. Input is automatically proportioned and throttled to suit production load which may be steadily or intermittently fed. Electronic safety controls afford protection from pilot, motor, air or current failure. Made by **The Industrial Oven Engineering Co.,** 11621 Detroit Ave., Cleveland, Ohio.

▲ Mention Item NED-6077 when writing ▲

AMERICAN WELDING
STEEL PRODUCTS
FABRICATED BY RESISTANCE,
SPOT, ARC OR GAS WELDING



✱ If you use, or plan to use, rings, bands or ring assemblies, let us show you how it will be to your advantage to use American Welded Steel Products. Send for folder "Welded Rings and Bands." The American Welding & Mfg. Co., Warren, Ohio.

BUY MORE
WAR BONDS

▲ Mention Item NED-6078 when writing ▲

CORROSION-PROOF

Photo Courtesy
Bell Aircraft Corporation

with
KESTER Rosin-Core SOLDER

- Corrosion — with terminal resistance and countless complications following in its wake—is "licked before it starts" when electrical connections are made permanent and secure with Kester Rosin-Core Solder.
- The plastic rosin flux will not injure insulating material, disintegrate, or lose its fluxing power in any way, regardless of temperature extremes. That makes it standard at air bases everywhere—in Arctics and Tropics alike.
- All Kester fluxes are stable and scientifically correct. The acid flux in Kester Acid-Core Solder, used for general applications, gathers no moisture and assures a tight, clean, permanent union under all operating conditions.
- Kester's 44 years of highly-specialized solder experience is at your service. Write fully, without obligation.

★ BUY WAR BONDS ★

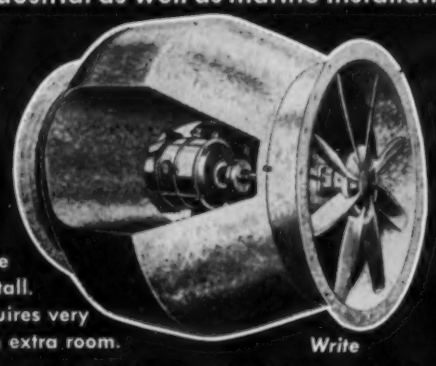
KESTER SOLDER COMPANY
440 Wrightwood Avenue, Chicago, Illinois
Eastern Plant: Newark, N. J. Canadian Plant: Brantford, Ont.

KESTER
Cored Solders
STANDARD FOR INDUSTRY

▲ Mention Item NED-6079 when writing ▲

REMOVE HIGH TEMPERATURE
AND CORROSIVE **FUMES**
WITH
International
DUCT BOOSTERS

Can be installed right in the duct, in any position—horizontal or vertical. Requires no platform for support. Eliminates 90° change in gas direction. Saves burned out motors in industrial as well as marine installations.



Simple to install. Requires very little extra room.

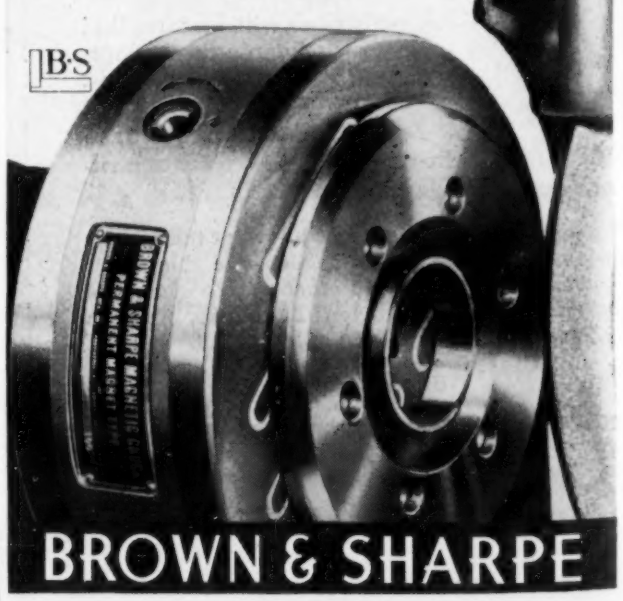
Write
INTERNATIONAL ENGINEERING, INC.
DAYTON, OHIO

▲ Mention Item NED-6080 when writing ▲

Speed Urgently Needed Work
— 9" ROTARY MODEL
PERMANENT MAGNET TYPE CHUCK

provides exceptional advantages and conveniences. No wires, no heating and no operating costs — it is quickly installed and transferred readily from machine to machine or machine to bench. Catalog of full line on request. Brown & Sharpe Mfg. Co., Providence, R. I., U. S. A.

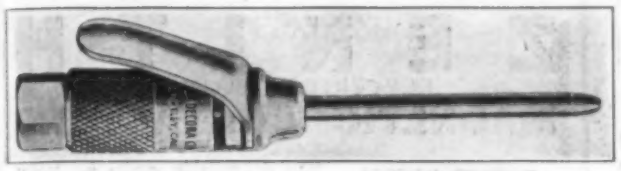
For sale only in the U. S. A. and its Territories and Canada



BROWN & SHARPE

▲ Mention Item NED-6081 when writing ▲

DECORA
AIR DUSTER-BLOW GUN
A RITEX PRODUCT



$1.00

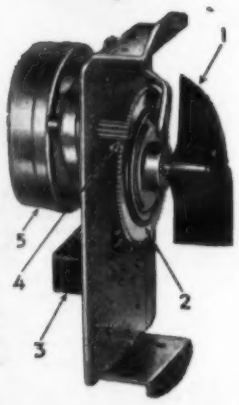
AS modern and efficient as the thousands of up-to-date American shops in which it serves! Indispensable for instantly cleaning machinery or removing moisture, grit, chips and filings. Its long, slender snout gets down into the cracks. Sure-grip, lever-type trigger gives graduated air volume control, also acts as hanging hook. Few parts, all quickly replaceable. Built for long wear in constant use. Prompt deliveries on War Production Board AA priorities. *{Distributorships open in several areas}*

See your DECORA Dealer or write

DECORA MANUFACTURING CO., Inc.
Factory Office: 1819 FIFTH STREET, BERKELEY 2, CALIFORNIA

▲ Mention Item NED-6082 when writing ▲

Another Paragon Timer achievement!



Here's a notable development in automatic electric timers . . . which includes several distinct engineering and operating improvements.

ENGINEERING FEATURES

1 The setting knob is directly connected thru the switch operating cam; unit does NOT set thru a clutch; this provides positive switch action.

2 All energy required to operate switch itself is built up by manually setting pointer. Motor and clutch thereby relieved of all drag.

3 Switch—single pole, double throw, 1000 watt capacity, fully enclosed. Underwriter's approved.

4 Only 2 exposed gears—motor pinion and wheel. Precision hobbed.

5 Motor—self starting, slow speed, industrial type synchronous, completely sealed.

6 No energy is required of clock motor to trip switch at end of preset time.

7 Nine time ranges from 0 to 14¼ seconds through 0 to 9¼ hours. Available in all types of enclosures.

8 All parts rust proofed and protected against corrosion.

2400 Series
For flush mounting

2900 Series
Wall mounting

2500 Series
Enclosed type

2500 Series
Side view
Mounts on handy boxes

NUMEROUS APPLICATIONS

Adaptable to any manually preset application with automatic switch operation at end of time cycle, such as plastic molding, rubber curing, batch mixing, heat treating, enamel baking, liquid agitation, light exposure—photographic, therapeutic, blue printing, infra-red drying,—blower operation, pump operation, conveyor operation and food processing.

PRECISION BUILT: This and every other Paragon unit is precision built, simple, accurate, reliable, modern and reasonably priced. Made by an organization of designers and engineers, growing since 1905.

SEND FOR BULLETIN . . . containing complete construction and installation data.

PARAGON ELECTRIC COMPANY
413 S. DEARBORN ST. • CHICAGO 5, ILL.

Paragon *Chicago*
BUILDERS OF ELECTRICAL EQUIPMENT . . . . SINCE 1905

▲ Mention Item NED-6083 when writing ▲

HAND MARKING MACHINE

Used for legible marking of part numbers, patent numbers, names, coding, trade marks, lettering or design on wide range of shapes and parts up to 6 inches in diameter or thickness, model No. 204 general purpose marking machine is hand operated. Flat parts are marked legibly by means of solid roller dies or mortised roller dies with interchangeable steel type.

Operator stands at front of machine with work under full view at all times. Part to be marked is placed on suitable fixture, fastened to table and foot pedal pressed. This raises table and brings part into contact with marking die. When handle is pulled downward, die is moved across part to roll in marking. Made by **Jas. H. Matthews & Co.**, 3947 Forbes St., Pittsburgh, Pa.

▲ Mention Item NED-6084 when writing ▲

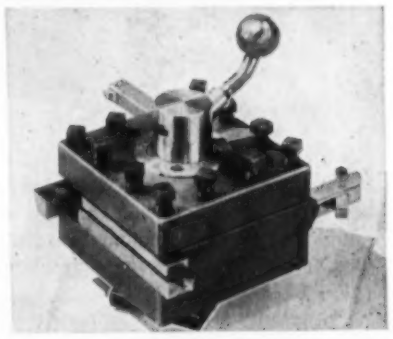
STAINLESS WELDING FILM

Produced to aid in teaching of welding students as well as those familiar with carbon steel welding procedure, new 16-millimeter sound motion picture entitled, "Welding Stainless Steel," will be sent without cost, express prepaid, to companies, trade or technical groups, industrial schools or colleges. Requests should be accompanied by alternate dates for showing.

While explaining welding of stainless steel in simple terms, film contains unique close-up shots of arc at work, greatly magnified so that action of protective flux and melting of rod metal can be studied. Basic differences between metallurgical characteristics of stainless and ordinary steel are compared. Step-by-step preparatory work for completing sound weld joints are covered. Exact procedure is shown. Direct requests to **Allegheny Ludlum Steel Corp.**, Brackenridge, Pa.

▲ Mention Item NED-6085 when writing ▲

TOOL POST TURRETS



Tailor - made to specifications of lathe for which it is ordered, this Zero-Tol tool post turret affords maximum accuracy for precision work. Device has automatic, adjustable and replaceable indexing mechanism. Post and two pins are tapered at five degrees to fit tapered bushings for setting tools. When handle is rotated counter-clockwise and returned, next tool is indexed into position.

Totally enclosed locking nut with dust ring, as well as fully protected indexing mechanism eliminates dust or metal shavings from interfering with accuracy of indexed positions. Tool may be used with equal precision by men or women operators. Made by **Mark Naught Co.**, 2803 S. E. Milwaukie Ave., Portland 2, Oregon.

▲ Mention Item NED-6086 when writing ▲

C/R MALLETS AND HAMMERS

permit forceful effective blows without battering, scarring or marring. They protect fine finishes, delicate insulation, hardened parts and costly machinery. They far outlast other mallets, hold a true striking face and, because they absorb recoil, they are less fatiguing on continuous use operations (as pounding in winding, assembly work, etc.). Speed production—reduce spoilage. All sizes. Weighted or unweighted. Hammers take replaceable insert faces.

CHICAGO Rawhide MFG. CO. ★ CHICAGO, ILLINOIS

Replacement insert faces for C/R Hammers sold by leading supply houses.

▲ Mention Item NED-6087 when writing ▲

FIND OUT . . . HOW

THESE BOOKS GIVE YOU THE FACTS

modine
UNIT HEATERS

✓ protect manpower
✓ save fuel ✓ save space
✓ cost less to install and less to maintain

Get Modine Catalogs 143-A and 143-B

HOW YOU CAN GET modine UNIT HEATERS
On an order carrying a priority rating of AA-5 or better. Or, on a repair order—"MRO"—for instance.

ARMY E NAVY

MODINE MANUFACTURING COMPANY
1702 RACINE STREET • RACINE, WISCONSIN

▲ Mention Item NED-6088 when writing ▲

Speed up production and assembly operations with *Knurled*

UNBRAKO Reg. U.S. Pat. Off.

Socket Head Cap Screws

The *knurled* head prevents slipping — permits the fingers — handiest of wrenches to be used to best advantage. Saves TIME and lost motion. Knurling also permits *locking* after counterlinking. You get this "UNBRAKO" knurled feature at no extra cost.

Sizes: No. 4 to 1½" diameter.

Write for "UNBRAKO" Catalog today.

Knurling of Socket Screws originated with "UNBRAKO" years ago.

OVER 40 YEARS IN BUSINESS
STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNA. BOX 511
— BRANCHES —
BOSTON • DETROIT • INDIANAPOLIS • CHICAGO • ST. LOUIS • SAN FRANCISCO

▲ Mention Item NED-6089 when writing ▲

DURO TEST LAMPS ARE FULLY BACKED BY OUR 2000 HOUR ONE YEAR FREE REPLACEMENT GUARANTEE

WRITE TO
DURO TEST CORPORATION
NORTH BERGEN • NEW JERSEY
For Complete Catalog #43 D
INCANDESCENT • FLUORESCENT ELECTRONIC

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Send for this FREE CHART

Decimal Equivalents. Accurate to four places. Signaled in three colors for maximum speed in locating decimal equivalent of fraction. Saves time and avoids errors. Yours at no cost or obligation. Just send us your name, title and address.

JOHN HASSALL, INC.
Specialists in Cold-Forging Since 1850
398 Oakland Street
Brooklyn 22, N. Y.

Hassall

Mention Item NED-6091 when writing

Speed... Safety

Men and women... skilled and unskilled, with Lima Gearshift Drives on their machines, are producing vast quantities of vital war materials for our armed forces.

Whether their jobs be running lathes, boring mills, millers, hobbers, shapers, drills, or any of the machine tools producing war materials, production will be higher and safer if their machines are driven with LIMA GEARSHIFT DRIVES.

If you need Fast, Safe, Dependable drive equipment, investigate LIMA GEARSHIFT DRIVES now. Wire or write for address of Lima Engineering Service nearest you.

Large enough to successfully serve you, yet small enough to give personal attention to your needs.

THE LIMA ELECTRIC MOTOR CO.
369 Findlay Road
LIMA, OHIO
REPRESENTATION IN MOST PRINCIPAL CITIES
LIMA GEARSHIFT DRIVES - LIMA ELECTRIC MOTORS
LIMA MAGNETIC POLISHING LATHES - LIMA PEDESTAL GRINDERS

Mention Item NED-6092 when writing

STANLEY "FLUD-LITE"

- Fluorescent Light
- Prevents Eye-Strain
- Speeds Production
- 110-120 v. A.C. current

1843 STANLEY 1943

Aids "Eye-Efficiency" of inspectors, assemblers, machinists, toolmakers. (1) Throws brilliant "natural" light on work. (2) Big 5" diam. lens reveals tiniest cracks, flaws and errors. Reamers, gauges, dies, etc., instantly checked. For descriptive material, write: Stanley Electric Tool Division, The Stanley Works, New Britain, Conn.

701 BENCH TYPE: Swivel joints permit adjustment to any position. Base removable to allow attachment to machine or in any other location.

701 H PORTABLE TYPE: Permits inspection anywhere in plant, inside machines or other confined spaces. Hardwood handle with 6' approved cable.

STANLEY ELECTRIC TOOLS

Mention Item NED-6093 when writing

TOUGHNESS TESTING MACHINE

Disclosing possible physical weakness in wood, F. P. L. toughness testing machine is being used in wooden airplane industry and may be useful in rapidly growing field of laminated plastics. Machine reveals compression defects resulting from proud wood and decay which might not be discovered by density and other physical property tests usually made in inspection for exacting uses of wood.

Unit operates by falling pendulum which breaks wood specimen supported as simple beam loaded in middle. Machine has 15 different loading capacities and three speeds to rupture specimen of wood being tested. Indications of machine are converted into number of inch-pounds of energy which are absorbed in breaking specimen. Machine must be used in conjunction with visual inspection to eliminate compression wood as well as diagonal and spiral grain, manufacturer states. Made by Baldwin-Southwark Div., The Baldwin Locomotive Works, 942 Chester Pike, Eddystone, Pa.

Mention Item NED-6094 when writing

WOODWORKING KNIFE GRINDER

Especially adaptable for grinding various types of woodworking, planer, jointer, barker, veneer and other straight edged knives, type NT knife grinder is equipped with 26 x 1½-

inch straight grinding wheel. Large cabinet base affords ample support for traveling carriage and houses operating mechanism. Spindle is mounted on preloaded precision ball bearings and is arranged for convenient removal and replacement of worn wheel.

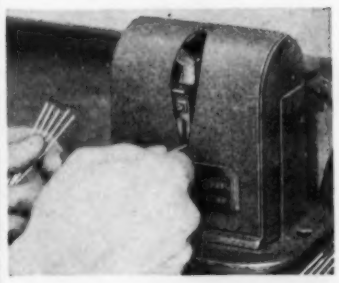
Grinding wheel is driven through two-speed drive by 3-horsepower motor. Separate 1-horsepower motor drives carriage through steel rack and pinion from transmission unit. Hydraulic carriage feed is optional equipment. Mechanical cross feed operates either manually or automatically. Grinding head is mounted on broad, heavy slide with adjustment to take up for wear.

Self-contained wet grinding attachment consists of centrifugal pump, piping and controls. Five standard sizes are 38, 48, 60, 90 and 110-inch machines. Made by Samuel C. Rogers & Co., 191-205 Dutton Ave., Buffalo 11, N. Y.

Mention Item NED-6095 when writing

Faster Production Stripping

IDEAL



"Hot-Blade" ELECTRIC WIRE STRIPPER

Quickly strips cotton, silk, or rubber from fine stranded or solid wires.

Insulation is burned (not cut) from wire by two electrically heated blades. Burning temperature of each blade can be separately regulated to suit wire insulation. Also, adjustable for diameter of conductor and length of stripping. Strips clean; no frayed ends; no scraped, nicked or cut wires. Stripped insulation falls into water drawer.

Send for Detailed Literature

MOST COMPLETE LINE OF WIRE STRIPPERS

PROMPT SHIPMENT

IDEAL *Sycamore*
IDEAL COMMUTATOR DRESSER CO

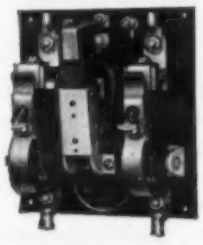
1032 Park Avenue Sycamore, Illinois
SALES OFFICES IN ALL PRINCIPAL CITIES

Mention Item NED-6096 when writing

ROLLING WIPING ACTION
Copper to Copper

Heavy compression springs assure ample contact pressure, and permit quick opening of switch, ... and a Zenith Contactor will not overheat on continuous 24-hour duty.

ZENITH
ELECTRICALLY HELD
MAGNETIC CONTACTORS



70 amp. 2-pole A.C. Zenith Contactor.

Most dependable service for Motor Starters, Emergency Controls, X-Ray Contactors, Blackout Switches, Time Switches, Cranes, Heating Units, Elec. Furnaces and scores of other uses. Sturdiest construction. Withstand heavy surges of Type C lamps. Silent. Vanquish A.C. hum. 30 to 400 amps., A.C. or D.C. 1, 2, and 3-pole.

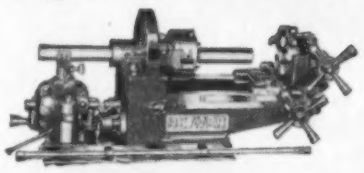
Send for NEW ZENITH CATALOG FOR FULL LINE OF AUTOMATIC CONTROL EQUIPMENT

Automatic Transfer Switches, Timers, etc. *Wire or Write*

ZENITH ELECTRIC CO.
156 W. WALTON ST. CHICAGO 10, ILL.

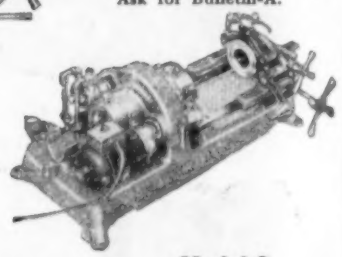
Mention Item NED-6097 when writing

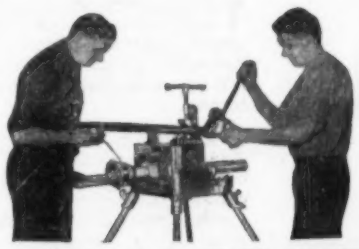
The A-B-C of Pipe and Bolt Machines!



Model-A
A high-speed heavy-duty deluxe Pipe and Bolt Machine. Range ⅛ to 2-inch —up to 12-inch with geared tools and drive shafts. Bolts, ¼ to 2-inch. Wt. 415 lbs. Ask for Bulletin-A.

Model-B
A compact utility Pipe and Bolt Machine combining many features of Model-A with the easy portability of Model-C. Range ⅛ to 2-inch — up to 8-inch with drive shaft and geared tools. Bolts up to 1½-inch. Weight 280 lbs. Ask for Bulletin-B



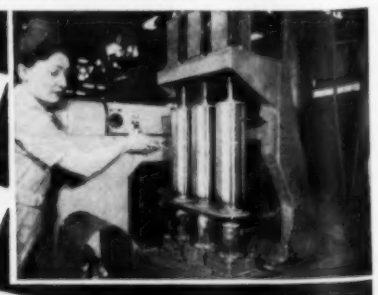


Model-C
A sturdy little Power Unit
Converts Hand Pipe Tools into Power Tools from ⅛ to 8-inches. Threads 8-inch in 6 minutes. Threads bolts up to 1½-inch. Equipped with automatic chuck wrench ejector—a safety feature. Two men can use it at the same time without interference. Easily portable—weighs about 150 lbs. Write for Bulletin-C

BEAVER PIPE TOOLS
Highest Quality • WARREN, OHIO • *For 40 Years*

1143 HENRY AVE. WARREN, OHIO

Mention Item NED-6098 when writing



FOR FASTER, SIMPLER, SILVER ALLOY BRAZING...

USE WAR-PROVED

SCAIFLUX 21

Here's a silver alloy brazing flux that simplifies your brazing procedure... permits faster work... provides better results.

SCAIFLUX 21 is fully active at 900°F., yet remains stable and active above 1650°F. Features high wetting power; transparent residue easily washed off. Available in paste or powder in convenient jars.

Write for descriptive bulletin.

SCAIFE COMPANY
OAKMONT, PA.

Mention Item NED-6099 when writing

SAVE OIL

YM pays for itself in 3 to 12 months!

● All types of oil can be salvaged for further use! YM Lube Oil Reclaimers are being installed by leading aircraft engine builders... flying schools... and many other concerns using lubricating and hydraulic oils. YM reclaimed oil meets the same Army-Navy Specifications as for the new parent oil... and the oil can be used and reclaimed over and over, returning each time to good oil specifications. The cost per gallon of oil treated is 5c in most plants and never over 10c. Send for proposal on equipment suitable for reclaiming your oils —advise quantities of oil available per week.

YOUNGSTOWN MILLER COMPANY
SANDUSKY, OHIO

YM OIL PURIFIERS AND RECLAIMERS
For Lubricating and Hydraulic Oils

▲ Mention Item NED-6100 when writing ▲

HOW TO *Slash* BADGE COSTS...

Most plants today (and probably yours, too) are confronted with a high ratio of employee turnover. Our tamper-proof re-usable photo badges will drastically reduce your badge costs. They can be opened and closed—only with a tool we furnish—for changing photos. The units save valuable time by permitting quick change of colored paper inserts when shifting employees to different departments. They eliminate needless waste of badge materials.

Re-usable badges will save, within a few months, the entire cost of a new badge installation.

SOLID METAL BADGES, without photos, also available.

Write, telegraph or telephone for helpful suggestions, samples, and quotations in quantities you specify.

TOOL CHECKS . . . Made from tough fibre . . . any size, numbered and lettered to your specifications.

AMERICAN EMBLEM COMPANY, INC.
LIBERTY BOULEVARD • UTICA, N. Y.
Sales Offices . . . New York • Philadelphia • Chicago • Detroit
St. Louis • Washington, D. C. • Representatives in Major Cities

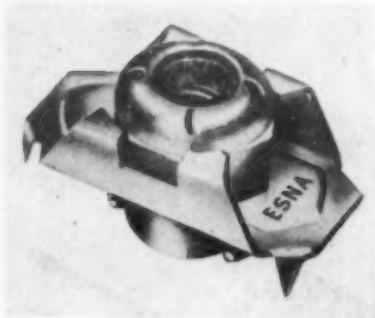
▲ Mention Item NED-6101 when writing ▲

Need Bushings?

—*Try* EX-CELL-O *First*

▲ Mention Item NED-6102 when writing ▲

SELF-LOCKING NUT

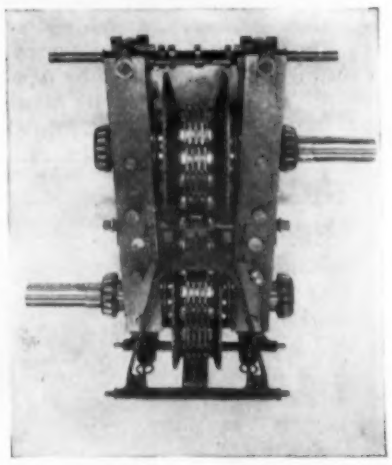


Developed for plywood construction, this self-locking fastening device is combination nut and basket. Regular Elastic Stop nut, with red cellulose locking collar, is used, interlocked with cleverly contrived basket that locks into plywood and holds nut securely. Four prongs at corner of basket sink into surface of plywood and two feet inserted in hole are forced into wood as nut descends, firmly anchoring basket. Spring fingers at top of basket clasp nut after it is seated and hold it firm against axial play.

Nut can be installed in three ways; driven in with hammer, forced in with press or drawn in with bolt. No special tools are needed. Construction makes nut independent of thickness of material; it can be used on plywood from ⅛ inch up. Nut is replaceable without moving basket and 8/32 and 10/32 nuts are interchangeable in same basket. Small hole, 9/32-inch in diameter, is all that is needed in wood. Basket part of device is extremely light, weighing only 4 ounces per 100. Made by Elastic Stop Nut Corp. of America, 2350B Vauxhall Rd., Union, N. J.

▲ Mention Item NED-6103 when writing ▲

VARIABLE SPEED DRIVE



Available for integral design into machine tools, P.I.V. gear speed variator mechanism is furnished without housing. It may be incorporated directly into machine, even running in same oil reservoir with change gear sets. Mechanism is of compact, all-metal construction, employing positive drive chain making side contact with radial teeth cut on two adjustable diameter discs which constitute each of two wheels that chain connects.

Operation is extremely simple when special graduated scale unit is used on lathe drive. Operator needs to know only work diameter and desired cutting speed. After selecting proper change gear range, control lever is shifted until desired cutting speed and work diameter coincide. Most efficient cutting speed may be obtained by adjustment without releasing cut.

Operating speed in bare unit, as illustrated, is regulated by handwheel or lever. When using 4 to 1 ratio mechanism with three sets of change gears on vertical drill, infinite spindle speeds with overall range of 56 to 3600 revolutions per minute are obtained. Unit is applicable to wide range of machines, other than machine tools, which may require variable speed drive as integral part of machine. Made by Link-Belt Co., Dept. NED, 307 N. Michigan Ave., Chicago 1, Ill.

▲ Mention Item NED-6104 when writing ▲

"Built to Stand the Gaff"
of WARTIME MATERIALS HANDLING

LO-LIF-TOER
TRUCKS CRESCENT TRACTORS

Wartime materials handling must be free of interruptions . . . requires equipment that can stay on the job every minute. In electric industrial lift trucks, that means the Crescent Lo-Lif-Toer. The Lo-Lif-Toer is built rugged to work hard . . . to last long. What's more, one-third the number of men or *women* do three times the work . . . because Lo-Lif-Toer operators carry, lift, lower, steer and tow without dismounting. Handles any load up to 3000 pounds.

Crescentize Your Materials Handling

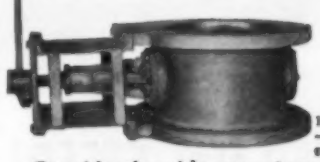
GET FREE FOLDER FOR FULL FACTS!
A complete guide to speedier, low-cost materials handling. Write today!

CRESCENT TRUCK COMPANY
1050 Willow St. • Lebanon, Pa.
Industrial Truck and Tractor Specialists for More Than 25 Years

▲ Mention Item NED-6105 when writing ▲

Wide Range of Operation

15 to 900 psi



No. 573
125-lb American Standard —hand lever control with extended stuffing box.

Consider the wide operating range of R-S Butterfly Valves. They are used for the reduction and regulation of pressure whether above or below atmosphere; to control liquid level; to relieve pressure and control back pressure; to maintain a constant differential pressure; to control rate of flow; to control combustion automatically as well as govern the output of pumps, fans, engines and turbines.

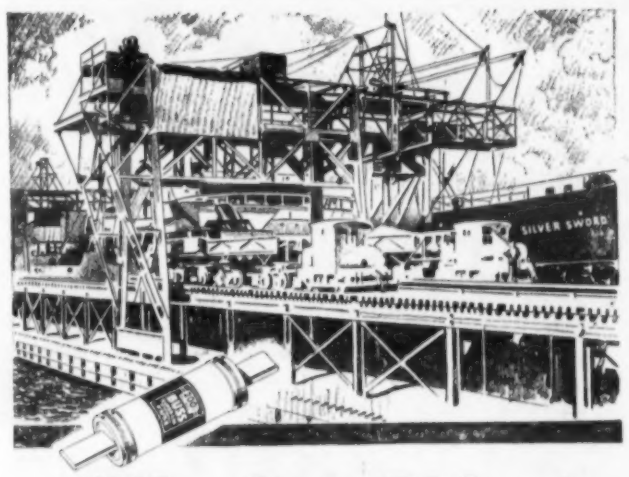
Coupled with these many uses and the inherent advantages of the R-S Butterfly Valve, are special metals for use where hard wear and severe stresses are encountered or where extreme temperatures and corrosive conditions exist.

If your problem has to do with the control and shut-off of volume and pressure, and you are interested in simplified and less costly methods, write. Ask for R-S Catalog No. 14-B.

VALVE DIVISION
R-S PRODUCTS CORPORATION
4527 Germantown Ave. • Philadelphia 44, Pa.

R-S *Streamlined* BUTTERFLY VALVES

▲ Mention Item NED-6106 when writing ▲



"We Got Rid of Costly Shutdowns

On our cranes—and stopped shorts from burning up our heavy copper trolley wire, when we replaced 600 ampere fuses with 400 ampere BUSS fuses."

"The value of BUSS Super-Lag fuses is of greater importance today than ever before, because of the scarcity of copper trolley wire, and the need to make every minute, hour, and day count. We must keep the working crew, who depend on our cranes to handle material for them, on the job.

"We started to use 400 ampere BUSS Super-Lag fuses over 12 years ago, replacing 600 and 800 ampere fuses in the main feeders to our cranes.

"We found that BUSS fuses not only eliminated useless shut-downs, caused when a momentary overload occurred—but, when a trolley wire broke, the 400 ampere BUSS Super-Lag fuse blew instantly when the broken wire shorted on the others. There was hardly a mar on the other wires.

"Before swinging to BUSS, such shorts often burned out the entire set of wires, which had to be replaced—tying up our cranes for 3 or 4 days for this major repair job. We're certainly sold on BUSS Super-Lag fuses."

STANLEY REISLER, *Supt. of Elec. Dept.*
Davison Chemical Corp., Baltimore, Maryland

Here's Why BUSS Super-Lag Fuses Greatly Reduce or Entirely Prevent Needless Blows

The fuse case is designed to insure good contact on the link, even when the fuse is renewed by an inexperienced person—and it is so designed that vibration or heavy overloads or the constant heating and cooling of the fuse will not permit poor contact to develop. Thus, excessive heat which causes fuses to blow when they should not is prevented.

The fuse link used is the famous "BUSS SUPER-LAG." It has lag-plates attached which give it a long time-lag so that heavy starting currents or other harmless overloads will not cause the fuse to blow.

And Here is How to Solve the "Shut-down Problem" in Your Own Plant

Be sure that all purchase records dealing with circuit protective devices call for BUSS Super-Lag Renewable fuses. Then, as fuses are replaced or new installations made, your plant will automatically get the benefit of the carefree, trouble-proof protection that BUSS Super-Lag fuses assure. BUSSMANN MANUFACTURING COMPANY, *Division McGraw Electric Company*, University at Jefferson, St. Louis, Missouri.

BUSS Super-Lag FUSES

Sold through Wholesalers

▲ Mention Item NED-6107 when writing ▲

TOOLS THAT MEET THE NEED FOR *SPEED!*

Wherever hand tools are used on critical production "tool speed" is a factor definitely to be concerned about. Inefficient hand tools . . . or tools poorly adapted to specific jobs . . . can hold down the performance of the best mechanic who ever swung a wrench.

Snap-on tools help meet today's need for speed . . . and *more speed.* They help turn out more work . . . and *better work.* Their flexibility and swift application, solid grip and powerful leverage, save precious minutes in every phase of production, assembly and maintenance.

3,000 Snap-on tools provide a wide selection of tool equipment for industrial requirements. 35 factory branches located in key cities assure prompt service. Write for catalog and address of nearest branch.

Snap-on Tools
THE CHOICE OF BETTER MECHANICS

SNAP-ON TOOLS CORPORATION
8045-L 28th Avenue
Kenosha, Wisconsin

▲ Mention Item NED-6108 when writing ▲

RODNEY HUNT

Super-Strong ROLLS

WOOD, METAL, RUBBER, PLASTIC

Specializing in rolls for 50 years, Rodney Hunt today makes use of new materials and applies patented features of design and construction which make rolls super-strong. Textile, paper and many other industries have ended roll troubles and cut roll costs by standardizing on "Rodney Hunt". Write for Catalog No. 740.

RODNEY HUNT MACHINE COMPANY
73 MAPLE STREET ORANGE, MASS., U. S. A.

▲ Mention Item NED-6109 when writing ▲

Here is a complete manual on bonded Mica and how it can be used by you. This adaptable form of mica insulation provides excellent electrical insulating properties under heat and moisture conditions where other materials would fail. Send for complete catalog No. M1. It costs you nothing.

CONTINENTAL-DIAMOND FIBRE COMPANY
NEWARK, DELAWARE

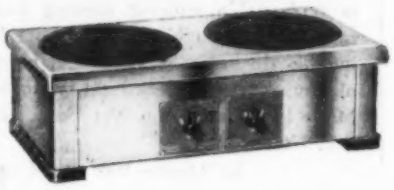
▲ Mention Item NED-6110 when writing ▲

GEAR MARKING HOLDER

Claimed to afford minimum stamping costs, this safety hand model gear marking holder has pilot which is designed to fit hub of gear. This assures proper positioning of marking. Type plate is cut out for exact number of characters and letters desired, and uses straight type rather than normal tapered type. Type characters cannot fall out of holder. Tool is made of safety steel to prevent mushrooming or spalling. Made by **M. E. Cunningham Co.,** 151 E. Carson St., Pittsburgh 19, Pa.

▲ Mention Item NED-6111 when writing ▲

ELECTRIC HOT PLATES

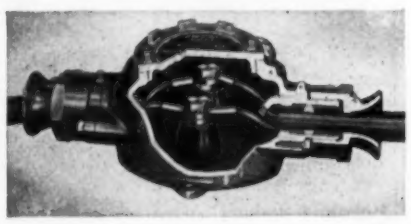


Containing Acrom Cast-X heating element, this line of electric hot plates is claimed to resist attack by fumes or acids. Heating element is provided with independent switches.

Standard construction is rating of 1000 watts per heating element on high, 500 watts on medium and 250 watts on low switch position. Normal voltage is 110 volts. Where required wattage or voltage can be changed to conform to special requirements. Made by **Acme Electric Heating Co.,** 1209 Washington St., Boston 18, Mass.

▲ Mention Item NED-6112 when writing ▲

SPLICE BOX



Designed to sectionalize trailing cables in gaseous working areas, type FG gas-proof splice box offers simple, safe means of connecting three-conductor cables by means of heavy bolted terminals. Box consists principally of bolted terminals on dirigo spool insulators within malleable iron case.

Cable enters case through gasproof packing gland which is assembled and sealed to end of cable itself. This assembly is done only once, preferably in mine shop. Thereafter gland assembly remains with cable and is attached to case by two cap screws. Safety ground wire is soldered to gland body and automatically makes ground connection through box casting. Safe splice is thus effected with this device by tightening only six cap screws, two on each gland and one each on positive and negative connections.

Splice box is provided with two mounting lugs permitting it to be spiked to timber, keeping cable off bottom. Sizes are available handling three-conductor cables from No. 8 to 2/0. Device has been tested and approved by U. S. Bureau of Mines, manufacturer states. Made by **Ohio Brass Co.,** Mansfield, O.

▲ Mention Item NED-6113 when writing ▲

Neoprene Stanzoils
for longer lasting hand safety in oils, acids, caustics

They stand up 3 to 7 times longer than rubber gloves, according to many reports—because Stanzoils are made of Du Pont's extraordinary synthetic, neoprene, which resists damage from harmful industrial fluids and materials. Also Stanzoils do not cause dermatitis sometimes caused by some other gloves. . . . All these save you expense, lost production from valuable hands, costly disability claims. . . . Standard styles and sizes, black or white. . . . Write at once for information and delivery data to

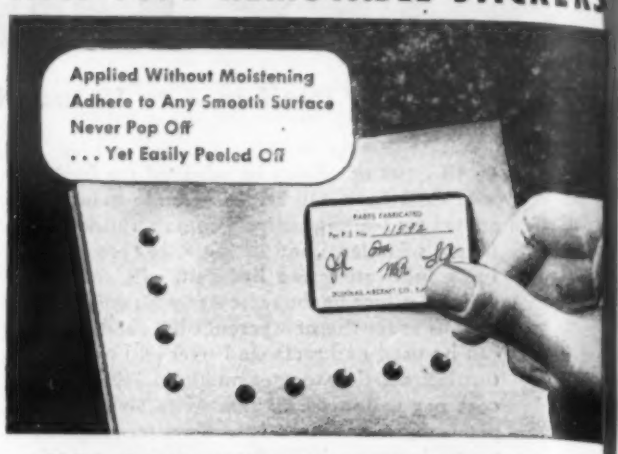
Synthetic Rubber Division
THE PIONEER RUBBER COMPANY
248 TIFFIN ROAD, WILLARD, OHIO
Los Angeles • New York

STANZOIL PIONEER

MADE WITH DU PONT NEOPRENE

▲ Mention Item NED-6114 when writing ▲

NEW TYPE REMOVABLE STICKERS



DOUGLAS AIRCRAFT FINDS THEM—
—faster to use . . . quicker to apply . . . easy to remove

Kum-Kleen stickers, with the magic adhesive backing, are applied without moistening, adhere to any smooth surface including metal, glass, plastic, and wood . . . never fall off . . . yet are easily peeled off when their job is done.

Try them as Inspection, Rejection, and Identification stickers.

Write today for samples and the booklet explaining their wide use in war industries.

Kum-Kleen Removable Stickers
AVERY ADHESIVES, Dept. NED-11, 451 E. Third St., Los Angeles, Calif.
In Canada, Enterprise Sales & Distributors, Toronto

▲ Mention Item NED-6115 when writing ▲

Put it up to WILSON

What are your needs now or in the immediate future as to:

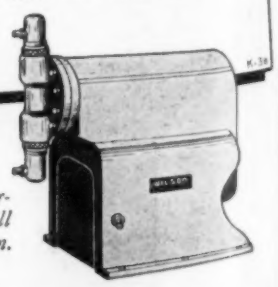
1 HYPO-CHLORINATION (Pulsafeeder)
For accurate* feeding of HYPO-CHLORITE; Activated, Black and Filter ALUM; Soda Ash; Ferrous, Ferric, Aluminum SULPHATE; Calgon, LIME SURRY; Sodium Aluminate; CAUSTIC; Ferric Chloride, Sulphuric Acid, Aqua Ammonia, etc.

2 CHEMICAL PROPORTIONING PUMPS
For accurate* feeding of all Acids and Alkalies.
Or (3) Liquid Filling Machines for non-combustible liquid materials; automatic or manual operation, standard or special construction.

Simplification of Wilson equipment assures accurate,* continuous, trouble-free operation. Prompt shipment on AA-4 or better Priority.

Outstanding Features (1 and 2) Positive Displacement. No contact between chemicals being pumped and operating parts. No packing glands. No diaghragm breakage.

**By accurate we mean better than ⅛ of 1%.*



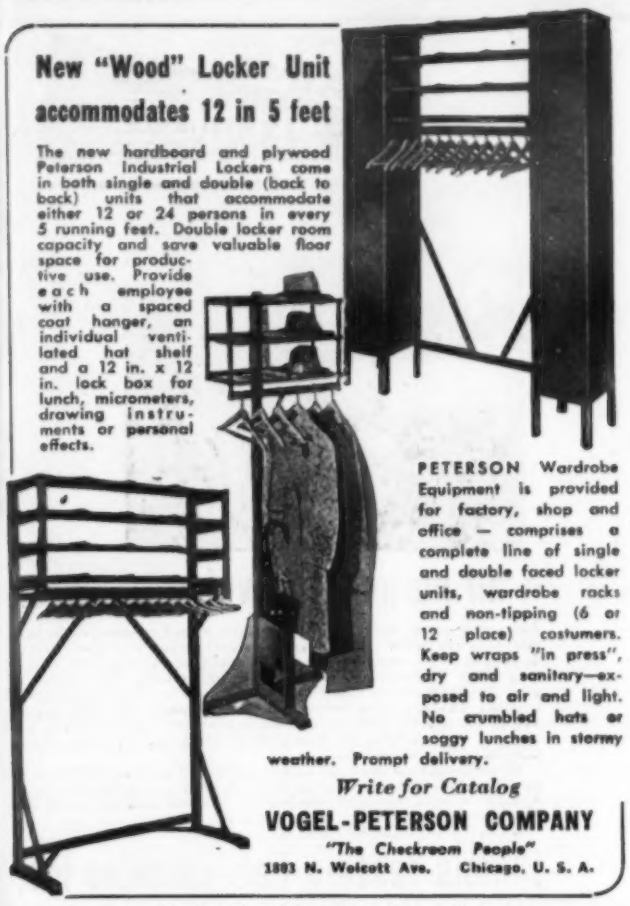
YOUR INQUIRY
for definite equipment, for information, or for literature . . . will receive prompt, intelligent attention.

WILSON
CHEMICAL FEEDERS, Inc.
202 CLINTON STREET (P. O. Box 998) BUFFALO 4, N. Y.
EST. 1923 . . . WITH EXPERIENCE IN ALLIED LINES SINCE 1914

▲ Mention Item NED-6116 when writing ▲

New "Wood" Locker Unit accommodates 12 in 5 feet

The new hardboard and plywood Peterson Industrial Lockers come in both single and double (back to back) units that accommodate either 12 or 24 persons in every 5 running feet. Double locker room capacity and save valuable floor space for productive use. Provide each employee with a spaced coat hanger, an individual ventilated hat shelf and a 12 in. x 12 in. lock box for lunch, micrometers, drawing instruments or personal effects.



PETERSON Wardrobe Equipment is provided for factory, shop and office — comprises a complete line of single and double faced locker units, wardrobe racks and non-tipping (6 or 12 place) costumers. Keep wraps "in press", dry and sanitary—exposed to air and light. No crumbled hats or soggy lunches in stormy weather. Prompt delivery.

Write for Catalog

VOGEL-PETERSON COMPANY

"The Checkroom People"

1893 N. Wolcott Ave. Chicago, U. S. A.

▲ Mention Item NED-6117 when writing ▲

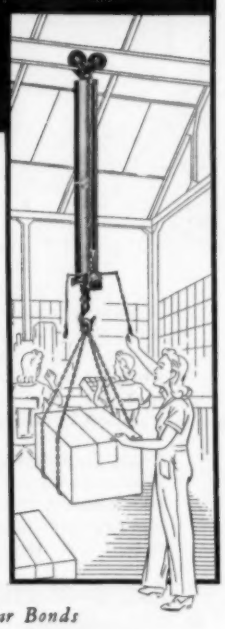
Springs have a fifth column enemy, tiny flaws and seams not visible to the naked eye. For that reason, Hunter inspection puts springs through the Magnaflux test, a method that readily reveals defects when a spring is magnetized and dusted with powdered iron. Inspection of this kind is necessary to insure the *best* for armament or for civilian use. Whichever it is, there is only ONE right spring for the job! Hunter will make it to your specifications or design it for you.

HUNTER PRESSED STEEL CO., LANSDALE, PENNSYLVANIA

HUNTER
Science in Springs

▲ Mention Item NED-6118 when writing ▲

Now Women Can Handle These Lifting Jobs Quickly, Easily . . . with CURTIS AIR HOISTS



Heavy lifting jobs can now be handled quickly and easily by women, using Curtis equipment.

Curtis Air Hoists provide these important advantages:

- Smooth, fast, accurate control of loads
- Low first cost—lowest operating expense
- Light weight — pendant, bracketed, or rope compounded types
- Immunity to abuse or overloads
- One-man or woman operation—finger-tip control
- Do not require skilled labor.

You can increase production efficiency, reduce worker fatigue, save thousands of man-hours with Curtis equipment. Write for full information and free booklet, "How Air Power Is Being Used in Your Industry."

Conserve Metals—Buy War Bonds

CURTIS ST. LOUIS • NEW YORK • CHICAGO SAN FRANCISCO • PORTLAND

CURTIS PNEUMATIC MACHINERY DIVISION
of Curtis Manufacturing Company
1979 Kienlen Avenue St. Louis, Missouri

▲ Mention Item NED-6119 when writing ▲

SAFETY BRASSIERE

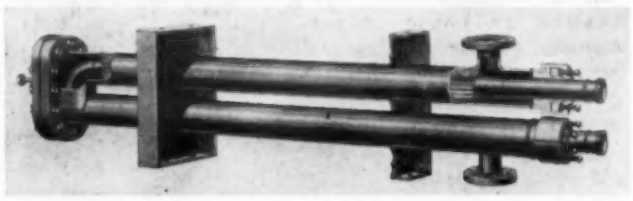
Designed in cooperation with recognized corsetieres, the Saf-t-Bra is shaped to adapt itself comfortably to female figure. It not only provides protection for breasts but also extends well back under arms to prevent possible injury to delicate lymphatic glands. Ample protection is afforded against bruises and serious injuries which might be encountered by women engaged in war work.

This safety garment is made of durable impact-resistant plastic which can be cleaned easily. It is fleshtone colored and is available in small, medium and large sizes. Made by **Willson Products, Inc.**, 207 Thorn St., Reading, Pa.

▲ Mention Item NED-6120 when writing ▲

SECTIONAL HEAT EXCHANGER

Featuring use of fintube section exchangers, this improved heat exchanger affords maximum accessibility. Installation and maintenance are facilitated by use of non-removable rear

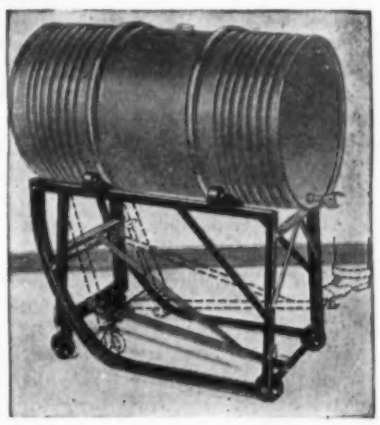


end assembly. It may be unbolted and swung through 180-degree arc to afford clear unobstructed entrance into exchanger.

Two solid rings and two split collars, tightened with cap screws, are used in head seal. Construction is claimed to be capable of holding pressures in excess of 2000 pounds per square inch. Hairpin sections are of welded one-piece construction. Made by **The Brown Fintube Co.**, 160 Filbert St., Elyria, Ohio.

▲ Mention Item NED-6121 when writing ▲

DRUM CRADLES



Providing for safe and easy handling of drums and barrels, use of Ipco safety cradles eliminates waste of liquids and saves time. Rotating wheels at top of frame allow drums and barrels to be easily and quickly put into position for removing part of liquid or for draining. Wheels and swivel casters are of large diameter, heavy duty type so that unit can be moved to desired location with comparative ease. Cradles are strongly constructed throughout to give long service. Made by **Industrial Products Co.**, 2807 N. Fourth St., Philadelphia 33, Pa.

▲ Mention Item NED-6122 when writing ▲

This Young Lady is Building Plywood Airplanes with a

HANSEN ONE-HAND TACKER

MOLDED PLYWOOD fastened in position with the HANSEN one-hand TACKER saves essential materials in airplane construction. Plywood is placed over a mold and tacked in place with the Tacker which holds the strips during molding process.

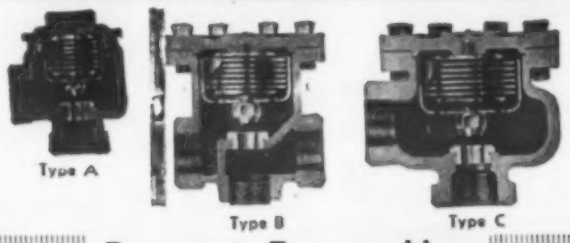
Molded plywood finds a wide range of uses—for making torpedo deck and radio housings, army reconnaissance vehicles, landing boat hulls, etc. The HANSEN TACKER speeds up its application. *What are your tacking or fastening problems?*

ASK FOR FOLDER 31-T

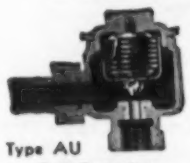
HANSEN TACKERS STAPLES

A.L. HANSEN MFG. CO.
5164 RAVENSWOOD AVE. CHICAGO, ILL.

▲ Mention Item NED-6123 when writing ▲



Prevent Freeze-Ups this Winter with NICHOLSON THERMOSTATIC INDUSTRIAL TRAPS



Type AU

Full Details in Bulletin No. 843

All types drain completely and automatically . . . same adjustment used for any pressure, vacuum to maximum allowable . . . discharge air as efficiently as water . . . complete drainage when cold prevents freezing . . . closes immediately when steam contacts bellows. Five types, sizes ¼" to 2", pressures up to 225 lbs.

W. H. NICHOLSON & CO., 162 Oregon St., Wilkes-Barre, Pa.

NICHOLSON Traps

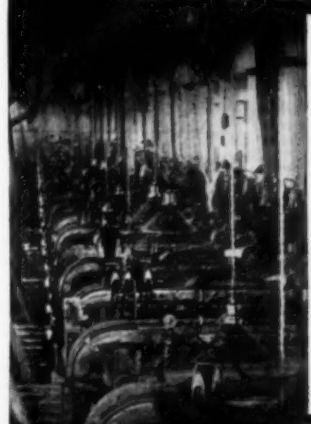
THERMOSTATIC ▼ PISTON AND WEIGHT-OPERATED STEAM GASOLINE AND COMPRESSED AIR TRAPS

CONTROL VALVES ▼ FLOATS ▼ MANDRELS ▼ STEAM AND AIR SEPARATORS

▲ Mention Item NED-6124 when writing ▲

▲ Mention Item NED-6125 when writing ▲

MACHINE HOURS
—how to increase same!



Do the obvious thing. Put on *Servis Recorders.* • This little *Servis Recorder* "rides" right on the machine, 24 hours a day. It records on a chart *when* the machine is busy, *when* it is standing idle, and *how long.* Then the chart is laid on your desk. Then you can *really see* your own factory, *see* what's going on! • This very thing is being done today in war plants all over the country. Simple? All worth-while things are simple. The *Servis Recorder* bolts or clamps right on the machine itself—no ink, no pencils, no electric wires. Send for folder—"*A Busy Plant.*" The Service Recorder Co., 1375 Euclid Ave., Cleveland, Ohio.

The **SERVIS RECORDER**

The "Time Clock" for Machinery

▲ Mention Item NED-6126 when writing ▲

TOKYO

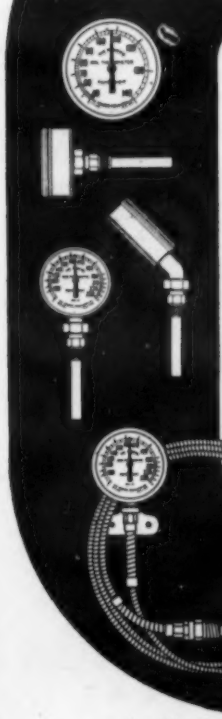
is so solly to hear
that Ceramic Products
of Burned Clay
are such satisfactory substitutes for products made of hard-to-get critical materials.
You will find our Engineering and Research Departments both competent and glad of the opportunity to help you solve your material scarcity problems.

NATIONAL FIREPROOFING CORPORATION
214 East Ohio St., N. S., Pittsburgh, Pa.

▲ Mention Item NED-6127 when writing ▲

POWERS

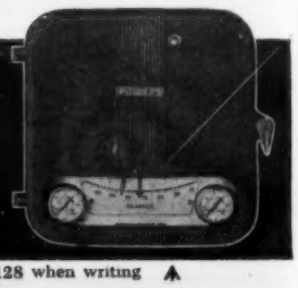
INDICATING
and
RECORDING THERMOMETERS



Some of the many different types of Dial Indicating and Recording Thermometers we make are shown here. We also make Recording Regulators and Regulators combined with easy to read Indicating Thermometers. **Write for Bulletins.** Specify type of instrument in which you are interested.

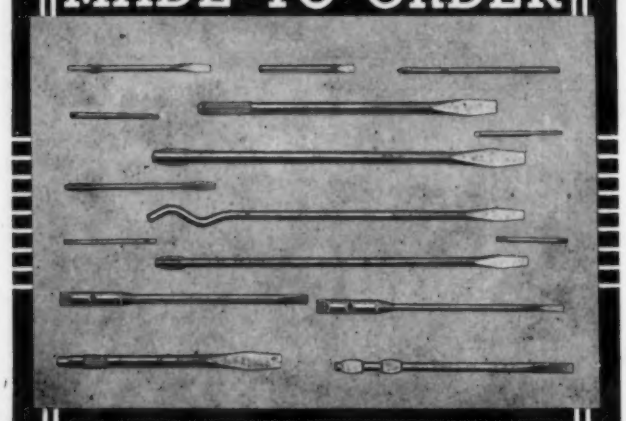
THE POWERS REGULATOR CO.
2740 Greenview Avenue, CHICAGO
Offices in 47 Cities—See your phone directory

50 Years of Temperature and ★ Humidity Control ★



▲ Mention Item NED-6128 when writing ▲

MADE TO ORDER



Screw driver blades to order for assembly in any type of handle, wooden, composition or plastic.

Points in either keystone or cabinet type. Edge of point carefully made and of uniform thickness.

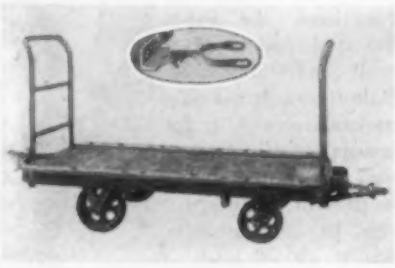
Shanks are winged, fluted, formed or milled, as shown.

Blades furnished in plain finish, blued or nickle plated.

The Torrington Company
SPECIALTY DEP'T.
Torrington, Conn., U.S.A.

▲ Mention Item NED-6129 when writing ▲

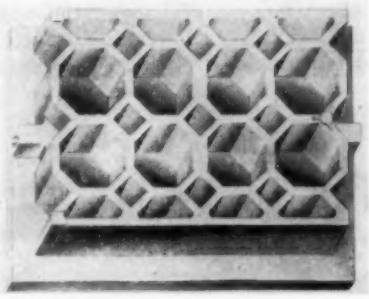
INDUSTRIAL TRAILERS



Adaptable for wide variety of materials handling applications, model 610 all-purpose industrial trailer features automatic hitch, although manually operated coupling may be furnished as optional equipment. Frame is of T-iron, reinforced by two longitudinal angle irons. Floor boards are of 1½-inch dressed hardwood. Cast steel brackets support SAE-1045 carbon steel rear axle. Caster wheels in front are 10 inches in diameter with 3-inch face. Rear wheels have 3½-inch face and 12-inch diameter. Made by **Rose Mfg. Co.**, 12400 Strathmoor, Detroit, Mich.

▲ Mention Item NED-6130 when writing ▲

SURFACE PLATES



Physical properties of this line of Barco surface plates are accurately controlled to assure uniform strength, absence of porosity and shrinkage, freedom from internal strain, rigidity, and resistance to heat and corrosion. Made of Meehanite castings, plates have uniform flatness of 0.0002 inch. Octagon ribbing, as shown in illustration, imparts rigidity with minimum of weight. Extra thick top may be rescraped or replaned if necessary. Stock sizes range from 6 x 6 x 3 inches to 60 x 132 x 16 inches. Also available is special table, 32 inches high and equipped with three leveling screws, for mounting surface plates. Made by **Barco Scraping Co.**, 1975 E. Sixty-fifth St., Cleveland, O.

▲ Mention Item NED-6131 when writing ▲

PULSATION DAMPENER

Adaptable for use with pressure gages subject to severe pressure pulsations and rapid fluctuations such as reciprocating pumps, type 1106 Ashcroft pulsation dampener is a small, compact and effective throttling device. It is suitable for all pressures up to 5000 pounds per square inch and for any pressure medium such as air, water, oil or steam. Device saves wear on gage movement and time in reading true mean pressure.

Principle of dampener is simple. Small monel plunger oscillates freely in cylindrical hole in bushing. Clearance between plunger and hole is just sufficient to give proper throttling action for certain conditions. Free movement of plunger makes device self-cleaning.

Since no throttling device is effective under all conditions, five different size holes are provided in bushing. Plunger may be transferred from one hole to another, depending upon degree of dampening required. All holes are sealed off except one in use by means of sealing disc. Number 1 hole, having smallest diameter and therefore with least clearance between plunger and hole, has most throttling effect. Made by Ashcroft Gauge Div., **Manning, Maxwell & Moore, Inc.**, 1943 Elias St., Bridgeport, Conn.

▲ Mention Item NED-6132 when writing ▲

READY!

SIMPLIFIED CATALOG
OF
G-E RENEWAL PARTS

HELPS GET PARTS FASTER

Simplifies order
Speeds delivery

Includes dimensions, descriptions, pictures, and prices of parts for G-E motors, control, switchgear, etc.; also supplies, such as magnet wire and insulating materials.

NOW, a single book—indexed for easy reference—can take the place of separate handbooks and bulletins for identifying and ordering most G-E renewal parts needed to keep your equipment in operation. With this book, you'll find it easier to order genuine G-E parts *by catalog number*—saving time all along the line.

For your copy, ask the local G-E office for Bulletin GEA-638, or write to General Electric Co., Schenectady, N. Y.

GENERAL ELECTRIC
750-220J

▲ Mention Item NED-6133 when writing ▲

Alnor VELOMETER

★ all purpose air velocity meter

Instantaneous, direct readings of air speed measured in feet per minute with the *Alnor* Velometer give you the quick, accurate information on air movement needed to check operation of blowers, fans, air conditioning installations, and similar equipment. No calculations, no timing, no conversion tables; read velocities direct from the Velometer scale. Extension jets permit accurate readings in many locations that would be completely inaccessible with other means of measurement.

The Velometer is made in several standard ranges from 20 fpm to 6,000 fpm, and up to 3 inches static or total pressure. Special ranges available as low as 10 fpm and up to 25,000 fpm velocity and 20 inches pressure.

Write for Bulletin No. 2448-E.

Illinois Testing Laboratories Inc.
430 NORTH LA SALLE STREET • CHICAGO, ILLINOIS

▲ Mention Item NED-6134 when writing ▲

IN PRODUCTION

COLD DRAWN STAINLESS TUBES MADE FROM STRIP UP TO 5/8" OD — WALL FROM .012" TO .083"

Write for samples and detailed test data

SUPERIOR TUBE CO. NORRISTOWN, PENNA
WELDRAWN
(WELDED DRAWN)
STAINLESS TUBING

WELDRAWN STAINLESS TUBING

Seamless Tubing Features at Lower Cost!

WELDRAWN was developed by *Superior Tube Company* to meet the increasing demand for low cost tubing in 18-8 and other Stainless analyses. One of the outstanding features of this new product is the fact that no metal is added during the welding, assuring a completely homogeneous tube which will not show inferior corrosion resistance. After cold drawing by Superior, the weld cannot be detected except by the use of a metallurgical microscope

SUPERIOR TUBE CO. NORRISTOWN PENNSYLVANIA

"For fine small tubing" in Seamless and other Types and various Metals

▲ Mention Item NED-6135 when writing ▲

In Roots-Connersville Centrifugal Blowers, special care in both design and workmanship is given to producing well balanced units, with high efficiency through experienced designing of volutes, impellers, bearings, seals, etc. Single-stage "R-C" units handle pressures up to 3 lbs. Multi-stage units up to 30 lbs. Capacities from 100 to 50,000 CFM.

Even though war restrictions may defer your procurement of new equipment for plant improvements, we will be glad to help you work out the details of your needs now—for future action. Write for bulletin.

ROOTS-CONNERSVILLE BLOWER CORP.
311 Western Avenue
CONNERSVILLE, IND.

Roots CONNERSVILLE SINCE 1854 Centrifugal BLOWERS

▲ Mention Item NED-6136 when writing ▲

A UNIT HEATER FOR HIGH AND WIDE BUILDINGS

These heaters solve the problem of heating high and wide buildings, such as warehouses, factories, hangars, and garages. The effective distribution of heat from these units permits each heater to adequately service a large area. Every improvement that engineers and the experience of many users is incorporated in the 1942 models. The circular construction is particularly adapted to the copper spiral fin tube construction because the shape and design of the fin creates an air turbulence without undue restrictions. Fins and tubes are metallically bonded to the copper tubes making a highly effective permanent union that maintains contact at high temperatures, providing extra good heat transfer capacity. Due to the careful design, a new degree of quietness has been attained with the result these heaters are being used on installations not previous considered adaptable. New catalog includes complete specifications. Write McCord Radiator & Mfg. Co., Detroit, Michigan.
—Advt.

▲ Mention Item NED-6137 when writing ▲

Sept. 1, 1943

MEMO to:
Maintenance Superintendent

Check today on:

THUR-MA-LOX

to provide maximum protection for all exterior and interior metal surfaces against corrosion due to high temperatures, gas fumes and the elements.

Thur-ma-lox* No. 7 Black a high heat resisting paint will maintain in good condition exterior and interior metal surfaces subject to abnormal temperatures from *ice cold* to a *cherry red heat.*

Thur-ma-lox No. 7 remains in an elastic condition expanding and contracting with the heating and cooling of the metal.

Easily applied to either warm or cold surfaces by spray or brush it will provide positive protection against the elements, fumes of sulphur dioxide, carbon dioxide, acetic acid or chlorine.

Write for bulletin N-T describing Thur-ma-lox more in detail and how to apply it.
*Patented

APPLY THUR-MA-LOX TO:
Fire Doors
Flues & Breechings
Steam & Hot Oil Pumps
Lined & Unlined
Steel Stacks
Boiler Fronts &
Furnace Casings
Water Gas Machines

THE M. W. KELLOGG COMPANY
Exclusive Sales Distributors
225 BROADWAY NEW YORK 7, N. Y.
Representatives in: Chicago, Ill. • Detroit, Mich. • Pittsburgh, Pa. • Los Angeles, Calif.

THURMALOX COMPANY • *Manufacturers* • DOYLESTOWN, PA.

▲ Mention Item NED-6138 when writing ▲

MILBURN CUTTING, WELDING, SPRAY FINISHING EQUIPMENT

Geared for WAR *today —or* PEACE *tomorrow*

Through two wars and for almost half a century, The Alexander Milburn Company has been serving Government and Industry. Milburn Equipment may be relied upon for superior, dependable service under stress of the most adverse conditions. Write for Catalog.

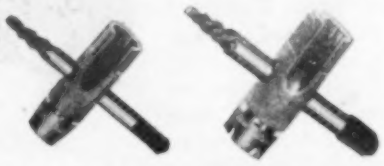
The ALEXANDER MILBURN Company

1423 W. BALTIMORE ST., BALTIMORE, MD.

▲ Mention Item NED-6139 when writing ▲

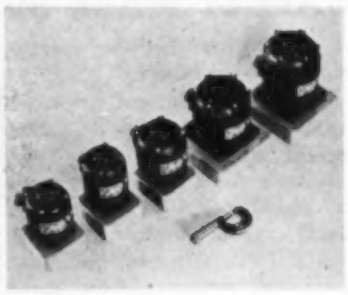
GREASE FITTING TOOLS

Combining several different sizes of grease fitting wrenches in single tool, this device is claimed to do work of many tools which would be required for installing, replacing or servicing lubrication fittings. Tool will fit either Alemite or Zerk fittings and it may be used for threading or extracting. No. NR-243 is 2½-inch size and No. 310 is 3½-inch size. Tools are available on priority of AA-5 or higher. Made by **New Britain Machine Co.**, New Britain, Conn.



▲ Mention Item NED-6140 when writing ▲

AIRCRAFT MOTORS



Designed to operate on three-phase, 400 cycle alternating current, this line of high frequency aircraft electrical motors ranges in size from ⅛ to 15 horsepower. Synchronous speeds of 6000, 8000 or 12,000 revolutions per minute can be provided, lower speeds being available by means of integral type gear speed reducers. Various types of flanges for mounting on pumps, blowers, actuators and other equipment can be supplied.

Sealed bearings are pre-packed with low temperature grease to meet Air Corps specifications. Motors can be supplied for both intermittent or continuous duty ratings. Use of magnesium alloy housings, combined with weight economy afforded by three-phase high frequency operation, result in substantial weight saving over normal direct current equipment. No commutator or brushes are required. Standard AN type connectors can be furnished. Exterior finish is black wrinkle enamel. Made by **U. S. Electrical Motors, Inc.**, 229 East Slauson Ave., Los Angeles, Calif.

▲ Mention Item NED-6141 when writing ▲

COMBINATION FILE

Capable of being combined with any standard size record card unit, as shown in illustration, this convertible letter-legal file consists of interlocking units which are 37¼ inches wide and 24½ inches deep. Suspension operated, equipment can be converted to legal size by removing insert without use of tools. Two of units with base and top make 4-drawer desk unit which is 30½ inches high. Files are constructed of selected hardwood and Masonite. Files for tabulating cards, time cards, fingerprint cards and cards measuring from 5 by 3 to 9 by 6 inches are available. Made by **Perma-Bilt Equipment Co.**, Dept. NED, Hanna Bldg., Cleveland, Ohio.

▲ Mention Item NED-6142 when writing ▲

HANDLE MORE PAY LOAD WITH LESS CRANE TIME

Blaw-Knox BUCKETS

Send for the catalog which describes the bucket you need—

- No. 1586—Blaw-Knox Concrete Buckets.
- No. 1606—Blaw-Knox Buckets for Contractors.
- No. 1696—Blaw-Knox Buckets for Single Drum Hoists for use on Railroads, Mills, Foundries, Etc.
- No. 1743—Blaw-Knox Buckets for "Bunstoning" handling Nitrates, Grain, Potash, Etc.
- No. 1757—Blaw-Knox 2 Line Loose Arm Buckets for Rehandling, Barge Cleanup, General Purpose, Hard Digging, Dredging.
- No. 1865—Blaw-Knox 4 Rope Buckets for Coal, Ore and Cleanup.

HEADQUARTERS FOR CLAMSHELL BUCKETS

Blaw-Knox buckets offer to industry the widest possible range of types and capacities specialized in application for the job; for excavating, rehandling, dredging, steel mill service, etc., in a word, for anything that can be handled profitably by a clamshell.

Blaw-Knox buckets are illustrated and described in great detail with dimensions and capacities in Blaw-Knox Bucket Catalogs which show how to select the exactly right bucket for your job. Write to

BLAW-KNOX DIVISION of Blaw-Knox Co.
2068 FARMERS BANK BUILDING, PITTSBURGH, PA.
NEW YORK • CHICAGO • PHILADELPHIA • BIRMINGHAM • WASHINGTON

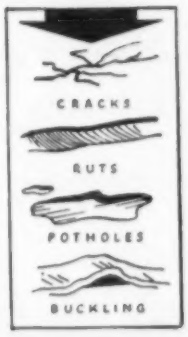
▲ Mention Item NED-6143 when writing ▲

FASTEST Production Travels On

KLEMP HEXTEEL

Heavy Duty Surface Armor

Insures against such handicaps as these:



And all other floor troubles. Safest most economical floor protection. Steel mesh imbedded in concrete or mastic over old or new concrete or wood floors. *Also repairs old floors.* Exposed top of steel mesh carries the loads.

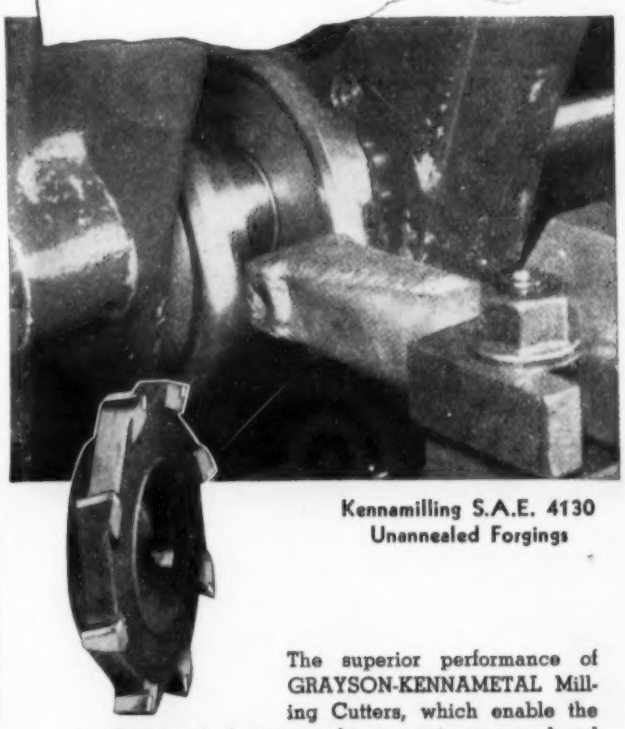
SEND FOR COMPLETE CATALOG

Hexteel, Floorsteel, Gratings, Stair Treads, Safety Mats. Write

WM. F. KLEMP COMPANY
"Steel Flooring Specialists"
6607 S. Melvina Ave. Chicago 38, Illinois

▲ Mention Item NED-6144 when writing ▲

"MORE *Milling* WITH FEWER MACHINES"



Kennamilling S.A.E. 4130
Unannealed Forgings

The superior performance of GRAYSON-KENNAMETAL Milling Cutters, which enable the metal-cutting industry to achieve maximum speed and production on milling operations, is clearly demonstrated by the many reports received from satisfied users.

For example, when a pair of 6" diameter GRAYSON-KENNAMETAL half side mills, with 10° negative helix were used to "Kennamill" S.A.E. 4130 Forgings (no heat treatment) with a chip load of .0047 per tooth and a feed of 15-3/4" per minute, the user wrote:

"These cutters were used to Straddle Mill boss 7/8" in diameter, removing 1/16" from each side. The cutters were mounted on a No. 2 L. H. Milwaukee, and *produced 80 pieces per hour for seven hours . . .* 560 pieces between grinds. This is really a production record, because *we were able to turn out four times as many pieces per hour as we could before.* It seems to prove your slogan 'More Milling with Fewer Machines' ".

Write for complete information. Let us help you solve your metal cutting milling problems.

KENNAMETAL THE All American CARBIDE

KENNAMETAL *Inc.*
171 LLOYD AVE., LATROBE, PA.
Trade Mark Reg. U. S. Pat. Off.
Foreign Sales: U. S. STEEL EXPORT CO., 30 Church St., New York (Exclusive of Canada and Great Britain)

▲ Mention Item NED-6145 when writing ▲

Skilled hands alone are not enough to assure the peak production essential to early victory. Soldiers of the production front must have tools they can depend on . . . to do better work, more work per set-up. This consideration leads the nation's industries to specify Abrasive, expertly engineered and produced by master craftsmen. Get acquainted with Abrasive for immediate as well as post-war production. Write for catalog and further details.

Third Generation of Diamond Experience

ABRASIVE DRESSING TOOL COMPANY • Detroit, Michigan

Mention Item NED-6146 when writing

Will-of-the-wisp drafts and hard-to-heat corners are always a nuisance in any heated building. But they can be eliminated quickly, economically, and easily by the placing of gas-fired Reznor Unit Heaters in the heart of the trouble zones.

Self-contained Reznor Heaters deliver more heat over a wider area because of the streamlined design of the heat exchanger tube section. They can be used as the exclusive heat source or as an auxiliary. Either way, the automatic thermostatic control assures a steady, even flow of warmth. Write for our illustrated catalog.

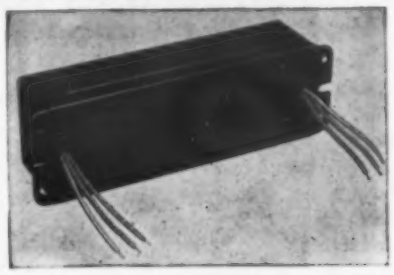
REZNOR MANUFACTURING CO.
101 James St. Mercer, Penna.

"GAS HEATERS EXCLUSIVELY SINCE 1888

Mention Item NED-6147 when writing

Mention Item NED-6148 when writing

FLUORESCENT BALLAST



Design of these improved fluorescent lamp ballasts includes leads in bottom as shown in illustration. This makes possible direct mounting of these accessories on shallow wiring channels which are no wider than needed to enclose leads. Ballasts are available in styles and sizes for 2 and 3-lamp 40-watt fixtures and 2 and 4-lamp 100-watt fixtures. Made by **Jefferson Electric Co.**, 903 South 25th St., Bellwood, Ill.

Mention Item NED-6149 when writing

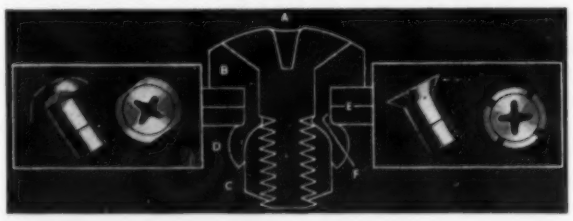
SAFETY MASK SWEAT BAND

So constructed that separate sweat band fits into it when tied around back of head, this lightweight safety mask is adaptable for all types of light-duty work. Band absorbs perspiration and can be rinsed, dried out and reused each day. Made of cellulose acetate plastic, mask will not fog and is practically unbreakable. List price of mask is 25 cents, sweat band 6½ cents and both for 30 cents. Free samples will be sent upon request. Made by **American Plastic Products**, 553 South Western Ave., Los Angeles 5, Calif.

Mention Item NED-6150 when writing

BLIND RIVET

Affording simplicity and reliability of common screw and nut, Preco rivets are adaptable for all types of riveting applications, especially for blind riveting. Suited for field service



in locations where power may not be available, fasteners may be applied with hand ratchet screwdriver.

Rivet consists of cadmium plated Phillips or Reed and Prince recessed head screw inserted into hollow stem of high strength aluminum alloy rivet with knurled nut of Dural threaded on end of screw. Both rivet sleeve and nut are anodized.

Only production tools required for application are standard air or electric screwdriver, small adapter and finder for screwdriver. Raised head and flush head types are available in ⅛, 5/32 and 3/16-inch diameters. Shear strength falls within allowable range of A D rivets. Made by **Pacific Railway Equipment Co.**, 960 E. Sixty-first St., Los Angeles, Calif.

Mention Item NED-6151 when writing

Photograph courtesy Boeing Aircraft Company.

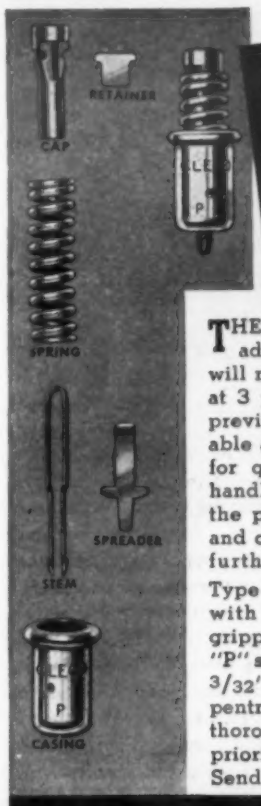
Have you fully explored what these many little abrasive cloth forms can do for you on metal sanding jobs? Had a B-M Field Engineer show you all the shapes and sizes? Even demonstrate them on jobs you select?

Many outstanding firms are converting more and more tough little operations to Metalite "Gadget" finishing every day. They save time and get better results than with hand or other slow methods.

Drop us a line. You'll benefit, we promise you.

BEHR-MANNING
(DIVISION OF NORTON COMPANY)
TROY, N. Y.

Mention Item NED-6152 when writing



NOW READY!
CLECO TYPE "P"
Triple-Safe
SHEETHOLDERS

THESE new Type "P" Cleco's have the additional advantage that the parts will not "fly" if the stem breaks. Locked at 3 points, they are *triple-safe*. As in previous types, these Cleco's are repairable and each size is colored differently for quick identification. They can be handled with any style of pliers used in the past. CLECO pliers, always handy and compact, have now been improved further, and are the best obtainable. Type "P" sheetholders can be furnished with longer stems and spreaders for gripping extra great thicknesses. Type "P" sheetholders are available in sizes 3/32", 1/8", and 5/32". Parts are either pentrated (self lubricating) or plated—thoroughly rust-proofed. With required priority, shipment is surprisingly prompt. Send for Type "P" bulletin.

THE CLEVELAND PNEUMATIC TOOL CO.
3781 East 77th St. Branch Offices in All Principal Cities Cleveland, Ohio

Mention Item NED-6153 when writing

PROTECT AND PRESERVE YOUR HOSE LINES

THIS EASY WAY!

Style No. 30 1-way Swivel

One of over 500 different Types, Styles and Sizes

A CHIKSAN Swing Joint is all you need to provide the 360° turning movement required for operating a hose reel. The double rows of ball bearings assure easy turning without strain on hose lines. The pack-off is so efficient that the same joint can be used for both suction and pressure service.

CHIKSAN REPRESENTATIVES IN PRINCIPAL CITIES
DISTRIBUTED NATIONALLY BY CRANE CO.

CHIKSAN TOOL COMPANY
BALL BEARING SWING JOINTS for ALL PURPOSES
BREA, CALIFORNIA

Mention Item NED-6154 when writing

POINTS 500 RODS
AN HOUR - *both ends at once!*

Needs only periodic loading of chute feed

Also PIPE & TUBE BENDERS

PINES PROFILERS center, bore, burr, thread, face, chamfer, ream both ends of tubes and rods simultaneously — combine as many as 3 operations at once — slash costs — push up production—use unskilled, lower wage help — quickly pay for themselves!

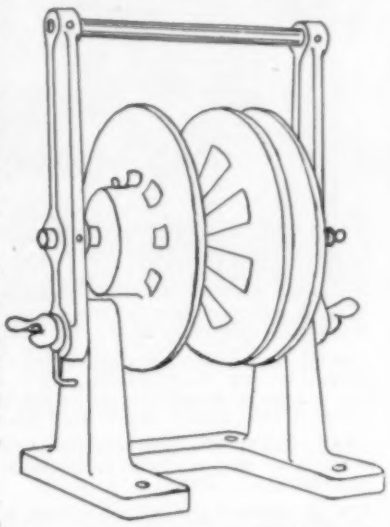
Phone, Wire or Write for Further Information

PINES ENGINEERING CO., INC.
640 Prairie AURORA, ILLINOIS
SPECIALISTS IN TUBE FABRICATING EQUIPMENT

Mention Item NED-6155 when writing

VARIABLE SPEED TRANSMISSIONS

Completely new and thoroughly proven are Toledo variable speed transmissions with ratios of from 1 to 1 to 10 to 1, for fractional to 3.5 horsepower drives. Made in two sizes and four forms, they are low in price and deliver positive speed control.



Available either completely assembled, with or without belts; with a thrust bearing for vertical mounting; or wheel assembly only for special machine design applications.

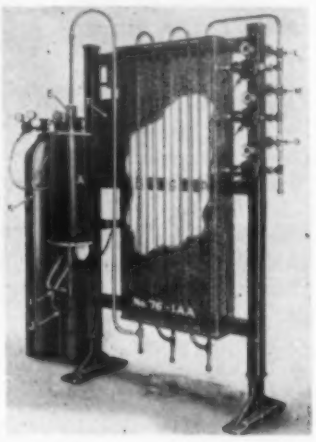
Field of application is practically unlimited. They are being applied to machine tools and other drives in numerous industries. They may be mounted in any position for either straight line or angle drive.

Important features include: ease of installation; compact size; sturdy construction; correct design to eliminate belt wear; infinite speed selection of stepless speed changes; speed change without stopping; oversize bearings; interchangeable parts; noiseless operation; and can be used with any size motor.

If you have a variable speed requirement, for either a complete variable transmission unit or variable wheel assembly only, let us show you how you can improve your product at a considerable saving. **The Toledo Timer Co.**, 2224 Albion St., Toledo, O. —Advt.

▲ Mention Item NED-6156 when writing ▲

HYDROGEN GAS PURIFIER

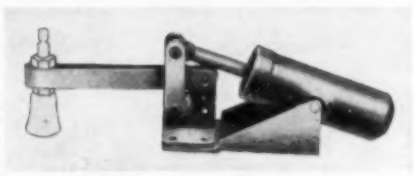


Removal of oxygen, moisture and other active contaminating gases from commercial hydrogen is readily accomplished with this hydrogen gas purifying equipment. Combination of electric heating and chemical purification is used to produce hydrogen for atmosphere furnaces, to reduce metallic parts in electronic tubes, to weld or braze metals in hydrogen atmosphere and for hydrogenation in food industries.

Two hydrogen cylinders are used to provide continuous production. All parts of equipment are readily accessible for cleaning or addition of chemicals. Purifying apparatus is available in various sizes to suit amount of gas required. Made by **Eisler Engineering Co.**, 753 S. Thirteenth St., Newark 3, N. J.

▲ Mention Item NED-6159 when writing ▲

TOGGLE CLAMP ACTUATOR



Designed for actuating toggle clamps, Airop unit uses shop airline pressure of 40 to 150 pounds. Gang of these units applied to toggle clamps around extensive perimeter of large assembly permits operation of all clamping units simultaneously from central control valve. This device may be set up for foot operation where operator must use both hands to guide work.

Device consists of cast metal cylinder which houses plunger connected with toggle clamp. Cylinder rocks freely to conform with changing angle of plunger. In locked position, unit affords constant holding pressure of 325 pounds at end of clamping bar. Clamping bar swing through 90-degrees from closed to open position facilitates removal of parts in fixtures. Made by **Airop, Inc.**, Dearborn, Mich.

▲ Mention Item NED-6160 when writing ▲

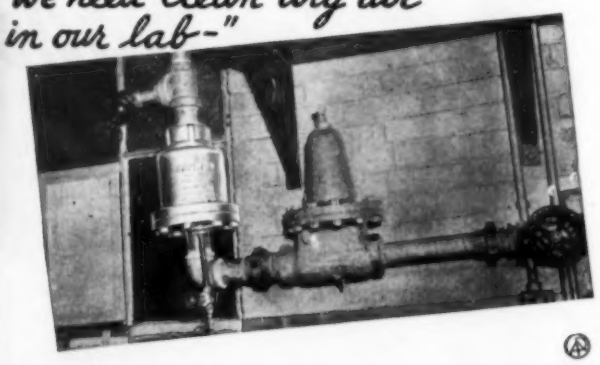
FLUORESCENT LIGHTING UNIT

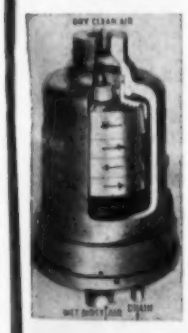
Employing Super-ballast and special wiring circuit which eliminates need for starting switches, this Quick-Liter industrial luminaire uses standard 40 and 100-watt fluorescent lamps. It will operate on wide range of voltages and starting is instantaneous. Fixture is available for two 40-watt and two 100-watt lamps for operation on 110 to 120 volts or 220 to 240 volts.

Wiring and ballasts are fully enclosed in top housing which conforms to W.P.B. steel limitations. Trigger supports facilitate lamp removal. Bump-Proof end plates give added lampholder protection. Formed Masonite reflector is finished in baked synthetic white enamel. Eggcrate louvers are available for lamp shielding where desired. Made by **The Edwin F. Guth Co.**, 2603 Washington Blvd., St. Louis 3, Mo.

▲ Mention Item NED-6161 when writing ▲

"We need clean dry air in our lab-"





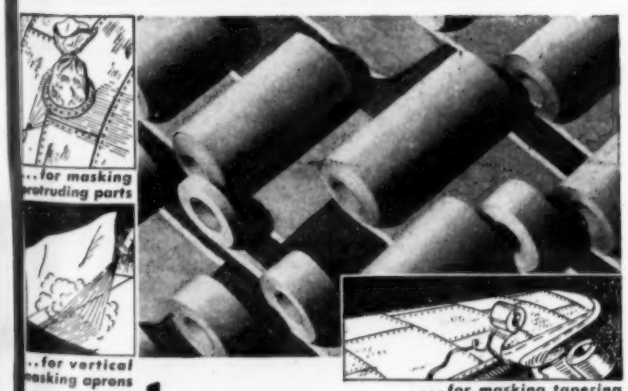
The metallurgical laboratory of an Eastern aircraft company wrote us to that effect. An Aridifier since installed meets their meticulous requirements by continuously removing all contamination from the compressed air used in research work.

Thousands of Aridifiers have proved themselves in use; cutting costs for every industry using air for tools, hoists, sprayers, motors, controls, etc. Send for new Bulletin No. 543.

LOGAN ENGINEERING CO.
4917 Lawrence Ave., Chicago, Illinois

The ARIDIFIER
Dries and Cleans Compressed Air

▲ Mention Item NED-6157 when writing ▲



Adhere edge-gummed MASKING PAPER IN ROLLS
...for a hundred time-saving uses

Adhere Masking Paper in Rolls has the edges gummed ... ready to apply. Saves man-hours in masking flat surfaces, straight edges, airplane windows ... or, protruding parts, as shown above. Speeds masking operations in both manufacturing and maintenance ... on air, mobile or marine equipment. Costs less than paper plus masking tape. Made of light weight paper, treated to resist paint and lacquer. Comes in convenient widths, 3 to 36 inches. Gummed on one or both edges. Send for details and prices.

Manufacturers of Adhere Spraymask, Ready-to-apply Insignia and Window Masks and Edge-gummed Masking Paper in Rolls ... and now, Adhere Rivet Tape.

Adhere Inc., 1220 Maple Avenue, Los Angeles, California

▲ Mention Item NED-6158 when writing ▲

You can *Hoist, Swing* and *Travel* (at the same time) with a LORAIN CRANE

● Here's an advantage that pays off big in more efficient, faster operation. No traveling through the swing gears, no lost time in shifting gears. The 3 levers in front of the operator give him instant control of hoist, swing, travel (or boom derricking), and he may use each singly or any two together or *all three at one time*, with each operation under independent control.

This 3-in-1 feature will permit you to do many *new* crane jobs and to move more material faster, at lower cost. Write for a Lorain Crane Bulletin today.

The THEW SHOVEL COMPANY
Lorain, Ohio

THEW-LORAIN

▲ Mention Item NED-6162 when writing ▲

TOOLS OF YESTERDAY—WERE NEVER MEANT FOR TODAY!

Especially is this true of all materials handling equipment. Yale Hand Lift Trucks set the pattern for what is considered today's best materials handling tools.

All Yale Trucks are safer to operate—have a smoother roll—an easier lift—non-flying handles among their many other features.

For lower handling costs, greater handling efficiency, and complete operating safety, use Yale Hand Lift Trucks.

Capacities up to 20,000 lbs.

Models and capacities to fit every industrial requirement.

TRADE YALE MARK

THE YALE & TOWNE MANUFACTURING CO.
Philadelphia Division
Philadelphia 24, Pa., U. S. A.

▲ Mention Item NED-6163 when writing ▲

Do you need a MOTOR SWITCH THAT *Always Works*

Built to perform under the most severe conditions—where there is no room for failure—

Built to conform to exacting Navy specifications—

Built to outlast the motor itself—

Switches employing the Snap-Lock principle are now used by more than 80% of all machine tool builders. Inquiries welcomed.

SNAP-LOCK MOTOR SWITCH

Built by Machine Tool Builders For Machine Tool Builders

ELECTRICAL MANUFACTURING DIVISION
THE NATIONAL ACME CO.
CLEVELAND, OHIO

▲ Mention Item NED-6164 when writing ▲

Industrial
DIAMOND TOOLS

The STA-KOOL Single-Point Tool is equipped with internal coolant ducts and external cooling fins to quickly dissipate the heat, thus prolonging tool life.

SMITITE Diamond Dressing Tools employ a sintered metal setting, which firmly holds the stones till they are completely consumed.

Catalogs on request

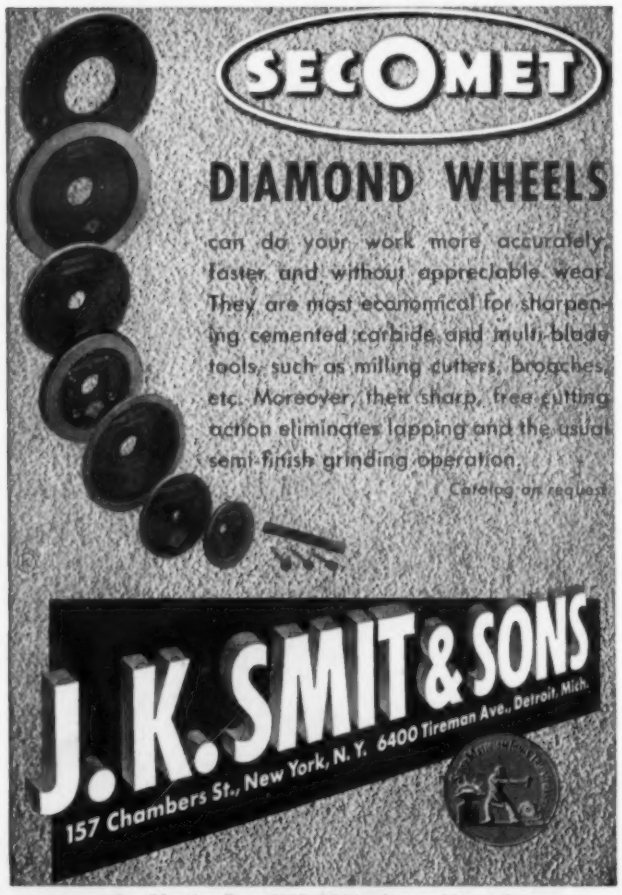
J. K. SMIT & SONS
157 Chambers St., New York, N. Y. 6400 Tireman Ave., Detroit, Mich.

▲ Mention Item NED-6165 when writing ▲

SECOMET
DIAMOND WHEELS

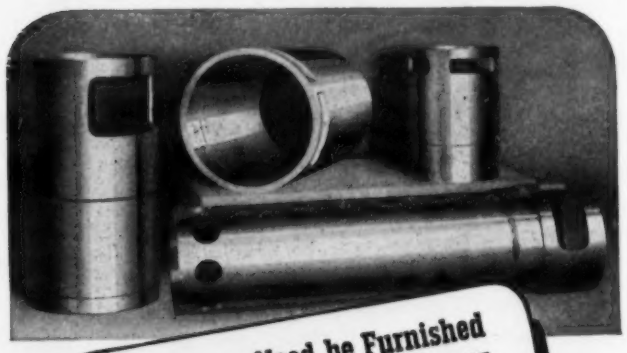
can do your work more accurately, faster and without appreciable wear. They are most economical for sharpening cemented carbide and multi-blade tools, such as milling cutters, broaches, etc. Moreover, their sharp, free-cutting action eliminates lapping and the usual semi-finish grinding operation.

Catalog on request



J. K. SMIT & SONS
157 Chambers St., New York, N. Y. 6400 Tireman Ave., Detroit, Mich.

▲ Mention Item NED-6166 when writing ▲



No Patterns Need be Furnished for SHENANGO-PENN
Centrifugal Castings

IN the Shenango-Penn process, centrifugal action and the amount of molten metal determine the size and shape of the casting. No patterns need be furnished—it's one of the advantages that are saving manufacturers time and money today. Bulletin No. 143 describes other advantages that assure the quality and long life of Shenango-Penn castings. Why not write for a copy now?

SHENANGO-PENN

SHENANGO-PENN MOLD COMPANY
808 West Third Street, Dover, Ohio
Executive Offices: Pittsburgh, Pa.

▲ Mention Item NED-6167 when writing ▲

SOUND PROJECTOR

Adaptable for music and voice paging, public address systems, time signals and for alarms, Compco industrial sound system projectors are available in two models. Speaker baffles are made for 12, 8 and 6-inch projector horns. Each size unit can be mounted vertically or horizontally to fit any installation requirements. Of rugged design, speaker baffles are constructed of two pieces. Made by **Commercial Metal Products Co.**, 2251 W. St. Paul Ave., Chicago, Ill.

▲ Mention Item NED-6168 when writing ▲

MOBILE POWER UNIT

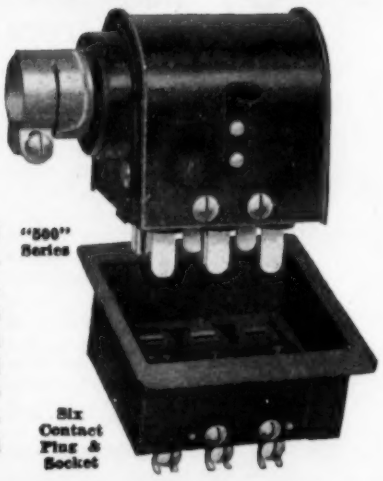
Preventing trouble or maintenance in permanent substations from causing long interruptions of service, this 3000 kilovolt-ampere mobile unit substation is ready on moment's

notice to be moved to any part of system where emergency power is required. Equipment has capacity sufficient to supply power to operate thirty-thousand 100-watt lamps or supply small town. Complete substation includes power transformer, high voltage fuses and disconnecting switches, feeder oil circuit breaker, lightning arresters for both high and low voltage circuits and load ratio control equipment to regulate low voltage under load. Unit weighs 20 tons and is compactly mounted on semitrailer, the front end of which is supported by towing tractor during transportation.

Equipment can be used to transform power circuits of 33,000 or 13,200 volts on high voltage side to 2450, 4400, 7620 or 13,200 volts on low voltage side. Transformer section is of forced oil, forced air cooled type with directed flow, making it small in size with considerable savings in weight and critical materials. Two-fan cooler is mounted at front of trailer in vertical position with fans and circulating pumps in back. Both high and low voltage series multiple switches are provided and arranged for operation by convenient external handwheels. Fuses and arcing horns are only parts which are removed during transportation. Upon arrival at site, fuses and arcing horns are installed, proper circuit connection is chosen, operating mechanisms are unlocked, connections are made to power lines and substation is ready for service. Developed in co-operation with Consolidated Gas, Electric Light and Power Co. of Baltimore, unit is built by **General Electric Co.**, Schenectady, N. Y.

▲ Mention Item NED-6169 when writing ▲

JONES HEAVY DUTY PLUGS AND SOCKETS



Designed for 5000 volts and 25 amperes per contact. Fulfills every electrical and mechanical requirement. Polarized to prevent incorrect connections.

Plug and socket bodies of molded bakelite. Plug contacts of hard brass, silver plated. Socket contacts of phosphor bronze, silver plated.

Terminals numbered to facilitate correct and rapid wiring. Plug and socket bodies are interchangeable in caps and brackets. Furnished in 2, 4, 6, 8, 10, and 12 contact.

Write today for Bulletin No. 500

HOWARD B. JONES
2460 West George St., Chicago 18, Ill.

▲ Mention Item NED-6170 when writing ▲

When a tool that has cost hundreds of dollars and will take weeks or months to replace breaks, it is nothing short of a calamity.

The big broach illustrated broke through the slot. It was full high speed steel, yet "HARDSTEEL" Drills drilled three ½-inch holes through the shank and put the broach back into service with little delay. A new broach would have been months in the making.

"HARDSTEEL" Drills in your shop will save you time and money—whenever steel hardened to Rockwell "C" 40 or higher by any process must be drilled.

Fine for salvage operations—equally good for production operations where full hardened steel parts can easily be drilled to match at assembly.

Write today for your copy of the "HARDSTEEL" Operator's Manual.

BLACK DRILL CO., 1490 East 222nd Street • Cleveland 17, Ohio

"YOU HARDEN IT—WE'LL DRILL IT"

"HARDSTEEL"
DRILLS • REAMERS • TOOL BITS • SPECIAL TOOLS

▲ Mention Item NED-6171 when writing ▲

4 Quick Ways
TO SOLVE INDUSTRIAL HEATING PROBLEMS WITH ELECTRIC HEAT

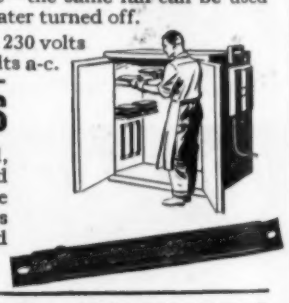
Electric heat can solve many heating headaches... independently of possible fuel shortages. Here are four simple and effective ways this versatile production aid can be put to work:

Dual Purpose *Fan-Type* UNIT HEATERS

Use them anywhere—in shop offices, receiving and shipping rooms, crane cabs, assembly lines. Mount them in any position, on floor, wall or ceiling. Large-capacity fan and heating element quickly heats large spaces in winter. What's more—the same fan can be used for cooling in summer, with heater turned off.

Ratings: 2, 3 kw, for 115 and 230 volts a-c; 4, 5 and 7½ kw, for 230 volts a-c.

STRIP HEATERS

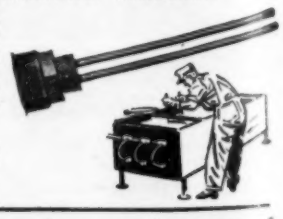


Quickly and easily installed, these strip heaters can be used in ovens, crane cabs, valve houses, pipe lines, process machinery, hot tables and countless other applications.

Convection-Type AIR HEATERS

This type solves heating problems in hard-to-heat, out-of-the-way places. Consisting of a series of strip-type heaters under a perforated iron cover, these heaters have long, dependable lives. Switch provides low, medium or high heat; thermostat control available for automatically maintaining desired temperature. Ratings: 1000 to 4500 watts; 115, 230 and other voltages; a-c or d-c; floor or wall-mounted.

"COROX" Immersion Heaters



A handy unit for heating water tanks, oil-tempering baths and process tanks of all sorts. Complete line available for all types of installations.

Standard Ratings: from .6 to 10 kw.

For complete information on these, or other types of heaters, call your Westinghouse office or write for Catalog 28-000. Westinghouse Electric & Mfg. Company, East Pittsburgh, Pa., Dept. 7-N. J-10248

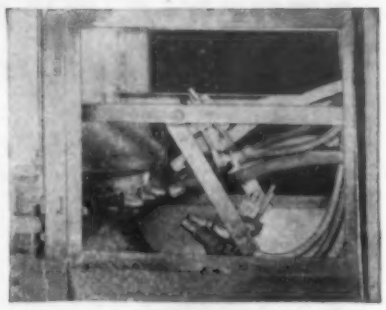
Westinghouse
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE
Industrial Heating

▲ Mention Item NED-6172 when writing ▲

AMMUNITION SHELLS

CLEANED

INSIDE AND OUTSIDE
AUTOMATICALLY
and at a high rate of speed with
LEIMAN BROS.



ROTATING-FIXTURE, MULTIPLE-NOZZLE

SAND BLAST

Complete outfits are furnished for shells of all calibres and for all other classes of work—Metals, plastics, glass, composition, bakelite, etc.

RAPID DELIVERY TO SPEED WAR SUCCESS

LEIMAN BROS. Inc.
167-2 Christie St. Newark, N. J.

Mention Item NED-6173 when writing

ANOTHER SPECIAL BY PROGRESSIVE

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

For special heads, threads, finishes, etc. — on fastenings of any metal or alloy adapted to cold-upset—depend on Progressive. 25,000,000 is our weekly output; customer satisfaction our daily achievement.

The PROGRESSIVE MFG. CO.
TORRINGTON · · · CONNECTICUT

Mention Item NED-6174 when writing

FASTER more ACCURATE TENSION TIGHTENING...
with MOSSBERG TORQUE TOOLS!

BECAUSE they're made in 4 calibration ranges, dial graduations on Mossberg Torque Tools are larger, more widely spaced. Aircraft assemblymen can read 'em easier . . . measure nut and bolt tensions faster, *more accurately!*

EXAMINE the improved dial mounting and you'll see another reason why Mossberg Torque Tools control tensions more accurately. This rigid mounting protects dials from bumps that might knock them out of adjustment.

WIDELY USED by the U.S. Navy, by many leading aircraft makers, Mossberg Torque Tools have *proved* 98% accurate under most severe conditions. **Write for complete information**

APCO MOSSBERG COMPANY
161 Lamb Street,
Attleboro, Mass., U. S. A.

Mention Item NED-6175 when writing

NEW *Applications*

ELECTRICAL CONNECTOR DATA

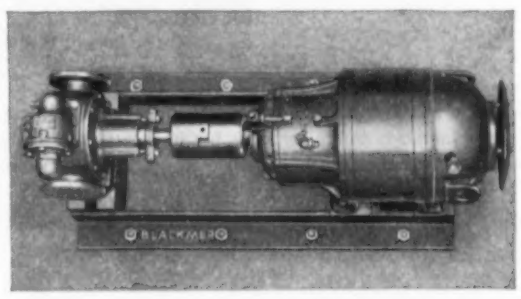
Prepared for use of aviation schools, aircraft plants, repair shops and field depots for instruction, ordering, servicing, assembly or repair of type AN electrical connectors, as well as for ready reference by engineering departments, two wall charts contain complete data. Chart No. 1, illustrated, contains current insert arrangements to scale with information on figure number, shell size, dash number, total contacts, wire sizes and service designations. Included at right are illustrations of standard AN parts, types and interchangeable features.

Chart No. 2 contains complete AN identification number of each of four types of connectors with inserts as shown in chart No. 1. When used with other chart, data gives complete AN assembly number of each fitting. Available free from **Cannon Electric Development Co.**, Dept. 49, 3209 Humboldt St., Los Angeles 31, Calif.

Mention Item NED-6176 when writing

WALL MOUNTED PUMP

This mounting arrangement for Blackmer rotary pumps saves considerable space and weight without sacrificing rigidity of installation. Base is fabricated of steel plate and angles are



welded so that they provide adequate mounting surface for pump and power unit and permit attaching entire unit to bulkhead or other vertical surface.

Although this mounting was designed primarily for marine use, it has many advantages for industrial installations as well. Pump furnished with new mounting is standard pumping unit, having 25 gallon per minute capacity, exerting 15 pounds per square inch pressure and operating at speed of 450 revolutions per minute. It is powered by 1.5 horsepower, 1800 revolutions per minute gearhead motor. Made by **Blackmer Pump Co.**, 1976 Century Ave., Grand Rapids 9, Mich.

Mention Item NED-6177 when writing

Kewaunee CHAIRS PAY REAL DIVIDENDS!

Big Dividends to You in the form of increased production, better work, fewer rejects, better labor relations.

Big Dividends to Your Workers in the form of greater comfort, lessened fatigue, decreased absenteeism, happier working hours.

Yes, providing Kewaunee Automatic Adjustable Chairs or stools for every worker at machine, bench, assembly and inspection line will pay you better dividends than any other investment you can make today. Used in leading plants from coast to coast.

Kewaunee
AUTOMATIC ADJUSTABLE CHAIRS and STOOLS

Made of selected hard wood with hickory support post for unusua strength and endurance. "Ton-tested" for strength, yet light in weight and easy to handle. Instantly adjustable, up or down, to provide proper seating for any man or woman, tall or short, light or heavy. Adjustable backrest nsures comfort and efficiency.

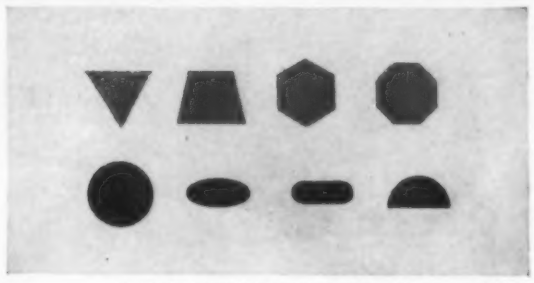
Immediate Shipment
of the three standard height ranges from warehouse stock . . . 18-22", 22-28", 28-36". Other height ranges obtainable.

WIRE OR WRITE FOR SAMPLE ON APPROVAL
Specify height range wanted. Descriptive circular on request.

C. G. Campbell, Pres.
KEWAUNEE MFG. CO., ADRIAN, MICH.

Mention Item NED-6178 when writing

PAGE *Shaped* **WIRE**



A FEW STANDARD PAGE WIRE SHAPES

HOW CAN PAGE HELP YOU WITH SHAPED WIRE?

Currently, the **PAGE** mills are practically at capacity producing Shaped Wire for the direct use of the armed forces and for war production. That is the way it must be until the job is done.

However, the fact that **PAGE** cannot deliver product to you for civilian use now, should not keep you from taking advantage of the experience of our organization with the production and use of Shaped Wire. Remember, wire has always been the business of **PAGE** and if we can help with any of your problems, we will be glad to do so.

Certainly if you are planning products for after-war production, we would be happy to work out details with you.

PAGE STEEL AND WIRE DIVISION
Monessen, Pa., Atlanta, Chicago, Denver, Los Angeles, New York, Pittsburgh, San Francisco, Portland

In Business for Your Safety
ACCO AMERICAN CHAIN & CABLE COMPANY, Inc.
BRIDGEPORT • CONNECTICUT

Mention Item NED-6179 when writing

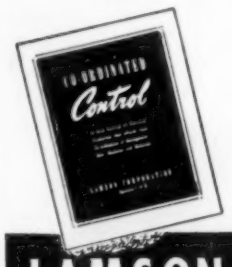
IT IS THE *Duty* OF MANAGEMENT TO
LOOK AHEAD

"It is an obligation for management to begin NOW to look ahead to the post-war years, when ability to produce at low cost will once more determine which plants are to survive. It is then that the plant that has been making full use of mechanical handling equipment will find that same equipment its sharpest-edged tool for cutting costs."
—Factory Management and Maintenance

● Yes, NOW is the time to plan low-cost, efficient output for your post-war product. For planned production can give you the efficient cost-cutting tool you will need. With *both* Lamson Dispatch Tubes and Lamson Conveyors at work in your plant, management, materials, men and machines all move efficiently and economically towards a planned result.

● Lamson Tubes furnish instant, unerring communication to every part of the plant—important papers, time tickets, blueprints, samples, inspection reports, small tools, are made available the minute they are needed. Lamson Conveyors keep materials moving with a minimum of handling and floor-space, setting up a steady pace for production and eliminating traffic in the aisles and pile-up around machines.

Send for NEW Booklet



● How to increase output and cut unit costs with this system of planned production is told in our new booklet called, "Co-ordinated Control." It's full of valuable suggestions for projecting economical post-war production. Whatever your plans, be sure to send for a free copy of *"Co-ordinated Control."*

LAMSON CORPORATION
1050-1100 Lamson St., Syracuse 1, N. Y.
Makers of CONVEYORS and PNEUMATIC DISPATCH TUBES

Mention Item NED-6180 when writing

Accurate SURFACE PLATES

FOR PROMPT DELIVERY
For immediate delivery place your order now. Write for latest Precision Equipment Catalogue.

Representing the acme of vital precision inspection equipment, Lombard Master Style Surface Plates are now available from stock. Commercial style surface plates are also available. These plates although of a different basic design are now being universally used for general inspection and shop use.

	Sizes	Types A	B	C
The Master Style	14" x 18" to 48" x 96"	.0001	.0003-4	.0005-.001
The Commercial Style	8" x 12" to 48" x 96"	.0002-3	.0005-.001	

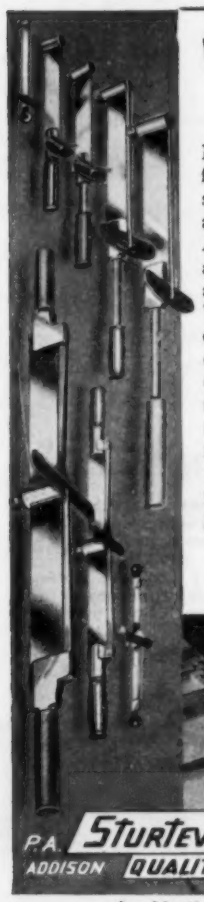
Planer finish also available in both styles. All plates are furnished with lifting handles and finished wood covers.

LOMBARD GOVERNOR CORPORATION
150 MAIN ST. ASHLAND, MASS. U. S. A.

Mention Item NED-6181 when writing

THE NEFF & FRY CO., CAMDEN, OHIO

Mention Item NED-6182 when writing



War Plane Specifications Require Torquing

Modern manufacturing methods call for controlled "settings" of vital nuts, screws, bolts, hydraulic fittings—of almost all threaded parts. Leading American aircraft and engine builders almost universally use the permanently accurate STURTEVANT TORQUE WRENCHES for innumerable applications ranging from building precision instruments to testing frictional drag in controls and motors. 50 models, capacities ranging from 0 to 5 inch pounds on up to 7200 inch pounds.

Write for Catalog Sheets

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

Mention Item NED-6183 when writing

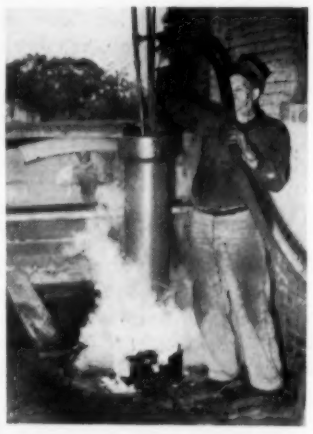
NEW Processes AND Materials

WEATHERPROOF BOX COATING

Maintaining complete waterproof seal over entire top areas of crates, Witco Mastic export box coating No. 224 is especially helpful to packers and shippers using cases made of green lumber which has tendency to shrink and separate. Coating is semi-hard, dry material which may be raked, troweled or sprayed on tops of crates, filling voids and assuring perfect seal. Material will not become too brittle in extremely low temperatures and will withstand heat up to 130 degrees Fahr. without excessive flowing. Coverage is about 25 square feet per gallon at designated thickness of 1/16 inch. Samples are available upon request. Made by **Wishnick-Tumpeer, Inc.**, 40 E. Forty-first St., New York, N. Y.

Mention Item NED-6184 when writing

CHEMICAL STONEWARE



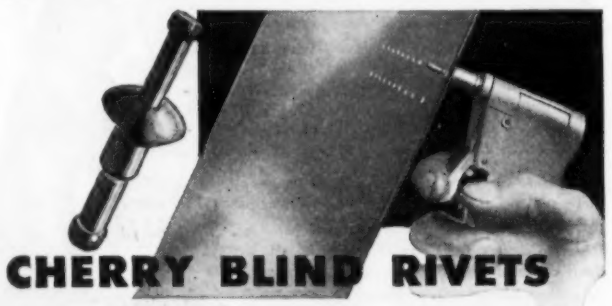
Capable of withstanding violent thermal shock, Ceratherm 500 is low-porosity chemical stoneware designed for use in processing, chemical and other industries. It can be heated directly by steam or hot gases and can be cooled quickly without any destructive effects. Material is completely inert to attack of acids, alkalies and solvents, with exception of hydrofluoric acid and hot caustics. Stoneware can be fabricated into wide range of sizes and shapes. This material is claimed not to deteriorate in strength under repeated heating. Stoneware includes tanks, crocks, boiling kettles, mixing kettles, cooling and condensing coils, evaporating dishes, pumps, pipe and other such products. Made by **The United States Stoneware Co.**, P. O. Box 350-B, Akron, Ohio.

Mention Item NED-6185 when writing

FLOOR RESURFACER

Repair and resurfacing of holes, ruts, breaks and irregularities in industrial concrete floors is facilitated by use of Agapatch concrete floor patch. This compound is impervious to effects of lactic acid and other acids, strong alkalies, oils and greases and heavy trucking. It is supplied in dry form to which water is added to form mortar or paste. It can be applied in any thickness from ½ inch to unlimited depths on dry or wet floors. Surface is ready for traffic in 6 to 8 hours. Manufacturer will furnish trial quantity to interested firms. Made by **Agatex Corp.**, 1170 Broadway, New York 1, N. Y.

Mention Item NED-6186 when writing



CHERRY BLIND RIVETS

SAVE TIME—MAKE HARD JOBS EASY

The Cherry Rivet is a mechanical blind rivet made of aluminum alloy. It is applied by one man. No bucking bar required.

There are undoubtedly many places in your business where Cherry Blind Rivets can be used to speed production and reduce manufacturing costs. Before completing your plans for any new products or manufacturing methods, investigate the advantages of Cherry Rivets.

WRITE FOR HANDBOOK. Get the complete story on Cherry Rivets in Handbook A-43. Address Department A-113, Cherry Rivet Company, 231 Winston Street, Los Angeles 13, California.

Cherry Rivets, their manufacture and application are covered by U. S. Patents issued and pending

Cherry Rivet Company
LOS ANGELES, CALIFORNIA

Mention Item NED-6187 when writing

Combination TRUCK & DRAIN RACK Loads Automatically

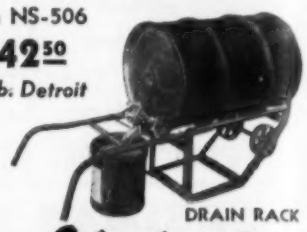
PICKS UP DRUMS

To pick up drum, tilt truck against drum, sliding steel fingers down to engage top rim of drum, then rock truck back to wheeling position. Sturdy frame and free rolling wheels make easy trucking of heaviest drums. Slight push downward on truck handles raises wheels and lays rack on floor, thus providing convenient drain for any drum.

Heavy angle iron frame, tubular handles, all welded construction. Two eight-inch roller bearing wheels. Weight 90 lbs.

Item NS-506
$42.50
f.o.b. Detroit

TRUCK



DRAIN RACK

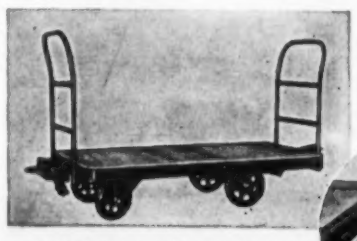
Palmer-Shile Co.
7116 West Jefferson Ave., DETROIT 17, MICH.

Mention Item NED-6188 when writing

$90,000.00 SAVED in ONE plant... by "WELD-BILT" Engineering in Materials Handling!

★ Wartime secrecy prevents telling the whole story of this "$90,000.00 Saving", but it happened in a large new war plant. . . A routine call by a "Weld-Bilt" Engineer, a quick survey of specified materials handling equipment, a suggestion—accepted—and new "Weld-Bilt" equipment was substituted which performed the same work more efficiently at a tremendous saving in cost.

Perhaps YOU have a problem that can be profitably solved by this thorough-going service in materials handling. Call on "Weld-Bilt" FIRST!

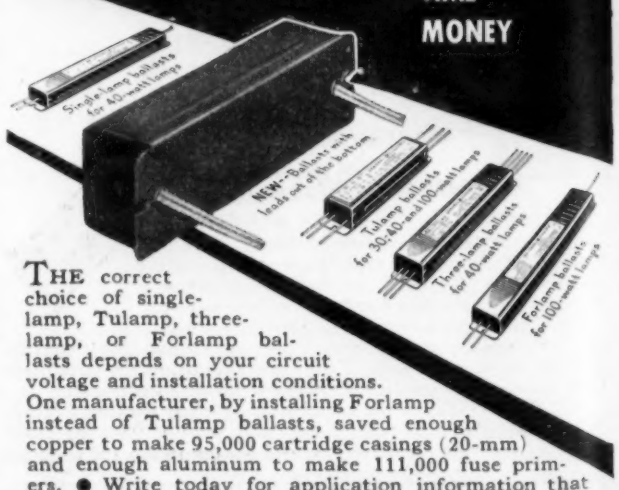


★ Weld-Bilt Trailer Truck (No. 650) with new "West Bend" time-saving Trailer Hitch (in inset)

WEST BEND EQUIPMENT CORPORATION
Materials Handling Engineers
220 S. Water Street • West Bend, Wisconsin
Manufacturers of Portable Electric Elevators, Two-Wheel and Four-Wheel Trucks, Skid Platforms, Barrel Racks, Tiering Machines, and special equipment.

Mention Item NED-6189 when writing

For War-plant Fluorescent Lighting CHOOSE THE G-E BALLAST THAT WILL SAVE YOU THE MOST MATERIAL TIME MONEY



THE correct choice of single-lamp, Tulamp, three-lamp, or Forlamp ballasts depends on your circuit voltage and installation conditions. One manufacturer, by installing Forlamp instead of Tulamp ballasts, saved enough copper to make 95,000 cartridge casings (20-mm) and enough aluminum to make 111,000 fuse primers. ● Write today for application information that will help *you* pick the most economical ballast. Ask for Bulletin GEA-3293. *General Electric, Schenectady, N.Y.*

GENERAL ELECTRIC

Mention Item NED-6190 when writing

DRY COMPOUND ABSORBS OIL

ABSORBO provides safe traction underfoot on oil-soaked floors

ABSORBO, a newly developed dry compound, removes oil and grease accumulations from floors of any type—wood, metal, concrete or linoleum. It absorbs up to 45% to 50% of its weight, quickly and easily. Composed of an inert, odorless material that is non-abrasive, it is harmless to skin, clothes, metal surfaces and flooring.

ABSORBO can be sprinkled on floors subject to re-occurring oil or grease accumulations, and allowed to remain, or where the condition is temporary, swept up after a few moments. In either case, the floor will be dry and footsure. ABSORBO is approved by the Underwriters' Laboratories as a Class 1 non-combustible. Even when completely saturated with oil, it resists burning and prevents fire from spreading.

Trial 50 lb. bag $2.75 F.O.B. Newark, with unconditional money-back guarantee. Substantially reduced prices on quantity orders. Write: **FIDELITY CHEMICAL PRODUCTS CORP.**, Dept. B2, 430 Riverside Avenue, Newark, 4, N. J. —Advt.

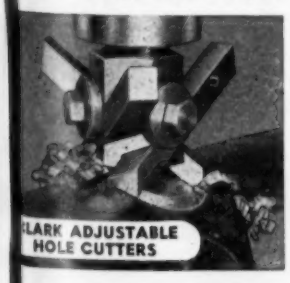
▲ Mention Item NED-6191 when writing ▲

It's Adjustable!

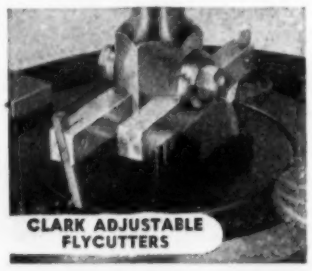
New Clark Spot Facer and Counterbore

TOOLED WITH TANTUNG

The use of *adjustable* blades, instead of fixed radius bits on the Clark Adjustable Counterbore and Spot Facer make it possible to cut all fractional diameters from 9/16" to 5½" with only 8 tools. *That's slashing inventory!* They cut clean and true in one operation. Adjustments are quick, simple. Operator can easily rapidly resharpen Blades by hand–*that's performance!* Pilots from 3/16" to 2½" in 16ths. Available individually or in complete sets.



CLARK ADJUSTABLE HOLE CUTTERS



CLARK ADJUSTABLE FLYCUTTERS

Make accurate, smooth holes in flat or curved metal, plastics, wood, transite. 7 sizes clean from 5/8" to 5", up to 1" thick. No reaming or deburring. Fewer operations are required.

2 sizes cut holes or discs 2½" to 10", up to 1" thick. Pitched blades cut true, relieve chatter. Other models cut gaskets, rings, discs from live rubber, packing and problem materials.

Mechanic's MODEL A and Heavy Duty Shop MODEL B for accuracy, uniformity in grinding rational 60° and Acme 29° tool bits. SPECIAL MODEL C for grinding Clark Hole Cutter Blades.

SEE YOUR JOBBER — WRITE FOR BULLETIN NED-11

In Canada: DOMINION BEARINGS, LTD., Toronto, Montreal, Winnipeg
Exports: THE AMERICAN STEEL EXPORT COMPANY, INC., New York, Los Angeles

Robert H. Clark Company
3424 SUNSET BOULEVARD, LOS ANGELES 26

▲ Mention Item NED-6192 when writing ▲

New Processes & Materials

PLASTIC METAL COATING

Affording claimed minimum salt spray resistance of five times that of galvanizing, Plast-Anneal protective plastic coating for metal also affords colloidal suspension of color pigment, contains rust inhibitor and provides uniform thickness of finish.

Applied after fabrication, coating covers all surfaces and joints. It is particularly suitable for protection from corrosion of ventilating units built by this company. It is stated that basic formula can be altered to produce adequate protection for almost any atmospheric condition wherein acid or alkaline vapors are present. Made by **The Allen Corp.**, 9753 Erwin Ave., Detroit 13, Mich.

▲ Mention Item NED-6193 when writing ▲

WINDOW CLEANER

Removing soot and smoke deposits, rust, lime and film from factory windows and skylights, this chemical compound dissolves such deposits almost instantly. They are then easily removable by scrubbing and flushing with water. Cleaner is particularly useful for skylights and "saw-tooth" roofs. It is also suitable for cleaning drinking fountains, washbowls, toilets and shower rooms. It will remove greasy film, lime and algae deposits of long standing that are difficult to remove, manufacturer states. Cleaner contains no acid and is not injurious to hands or clothing. Made by **Berman Chemical Co.**, 3290 Tenth St., Toledo 2, O.

▲ Mention Item NED-6194 when writing ▲

STEEL HARDENING SOLUTION

Permitting hardening of tools without drawing temper, Steel-temp steel hardening solution may be used on high carbon, carbon, low carbon, alloy or high speed steels. Tools are forged or shaped in usual manner. Edge tools are reheated back of cutting edge and quenched. Tools are then ground and are ready for use. Gears, shafting and small parts may be immersed in solution after heating. Material may be used directly in original container. It is delivered ready for use. Made by **Steeltem Chemical Co.**, 51 E. Forty-second St., New York, N. Y.

▲ Mention Item NED-6195 when writing ▲

GRINDING WHEELS

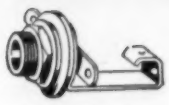
Made in wide range of sizes and styles, Koolpore grinding wheels are claimed to provide cool, fast cutting and fast stock removal without chip jamming. Ample clearance, maximum production and minimum of distortion of thin metal sections during surfacing operations are additional features.

Proper specifications can be furnished for practically any grinding operation. Styles include saucer wheels, straight wheels, flaring cup wheels, wire-wound abrasive cylinders and shaped segments for all kinds of surfacing operations.

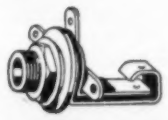
Open porosity of wheels adapts them for tool and cutter grinding where it is important that temper is not drawn. Abrasive cylinders have sulphur coating on inside surface to prevent penetration of lubricant, thus forcing it to pass between wheel and working surface. Made by **Bay State Abrasive Products Co.**, Westboro, Mass.

▲ Mention Item NED-6196 when writing ▲

utah **JACKS AND PLUGS FOR THE RIGHT "CONTACTS"**



OPEN CIRCUIT JACK



CLOSED CIRCUIT JACK

TU-WAY PHONE PLUG

ONE-WAY PLUG

UTAH PHONE JACKS are everything that selected materials and human ingenuity can make them. They are available in Imp, Short and Long frame types to fit the standard phone plugs. Special Jacks are also made to meet Navy and Signal Corps Specifications.

UTAH PHONE PLUGS can be supplied in two or three conductor types—for practically every type of application. Compact, sturdy and dependable—they're all a plug should be. Utah standard plugs are being used on many products destined for use by the Armed Forces. In addition, special plugs are being manufactured.

Investigate today the possibilities of using Utah Jacks and Plugs in your electrical applications. Write today for full information on Utah's Jacks and Plugs—it may save you considerable time and money.

UTAH RADIO PRODUCTS COMPANY
GENERAL OFFICES AND FACTORY
854 ORLEANS ST., CHICAGO, ILL.

▲ Mention Item NED-6197 when writing ▲

For Efficient Handling of Cartridge Cases—

CAMBRIDGE WIRE BASKETS

(Above) Used for carrying 20 mm steel cases through varnish drying process.

(Right) Used for carrying 57 mm steel cases through controlled atmosphere furnace.

(Left) Used for carrying all draws of 40 mm steel cases from cup to final draw through annealing furnace, quench and spray pickle.

Our experience covers all phases of manufacture of baskets, crates and woven wire conveyor belts for low cost, efficient processing of cartridge and shell cases. Write us.

THE CAMBRIDGE WIRE CLOTH CO.
CAMBRIDGE 13, MARYLAND

▲ Mention Item NED-6198 when writing ▲

NEW NOBUR TOOL SPEEDS BURRING OF HOLES!

REMOVES BURRS FROM INSIDE AND OUTSIDE EDGES IN ONE OPERATION!

The new NOBUR TOOL eliminates burring as a bench operation and makes burring a fast, easy machine operation. It can be handled by anyone or any machine with complete safety. All burrs are instantly removed, smoothly and accurately, and burring can be done as fast as parts can be handled by the operator.

New Nobur tool releases vitally needed manpower for other war work, cuts burring time to minimum, increases production of finished parts and eliminates the waste of vital materials.

Write NOW for complete information on burring this faster, better way!

NOBUR MANUFACTURING CO.
910 North Orange Drive, Los Angeles, Calif.

NO BUR TOOLS

NEW NOBUR TOOL MAKES BURRING A MACHINE OPERATION!

▲ Mention Item NED-6199 when writing ▲

DOUBLE

the Cutting Life of Your Saws!

Why do saws break out teeth, crack, or lose their temper? Nine times out of ten because they are used when too dull or imperfectly filed. They get too hot,—and the trouble starts.

The Foley *Automatic* Saw Filer files saws so much faster you can always work with sharp saws, which not only prolongs saw life but increases power saw output from 25% to 40%. Saws are *automatically* jointed as filed, keeping all teeth even in size, shape, spacing. Foley-filed saws run so smooth, true and cool that breakage is practically eliminated. If your saws are hand-filed,—investigate!

ONE MACHINE FILES ALL SAWS

The Foley Automatic Saw Filer is the ONLY machine that files cross-cut circular saws 3" to 24" in diameter, band saws up to 4½" wide,—all hand saws. Simple attachments come with the machine for each type of saw. A Foley Automatic Saw Filer can be purchased under a CMP-5-MRO. Prompt delivery can be made.

30-DAY TRIAL IN YOUR OWN PLANT

You may have the privilege of a 30-day trial in your own shop, on your own work. Actual use of Foley-filed saws is more convincing than anything we can say.

FOLEY Automatic SAW FILER

FOLEY MFG. CO. 21 2nd Street N. E. Minneapolis 13, Minn.

Please send literature on the Foley Automatic Saw Filer and details of your 30-Day Trial.

Name .....

Address .....

▲ Mention Item NED-6200 when writing ▲

HAVE YOU SOME MARKING PROBLEMS?
Ask for **Free** *copies of this*
MARKING DEVICES *Literature*

Check items wanted

- ☐ No. 344 Metal Tag Embossing Machine Folder
- ☐ Rubber Stamp Catalog No. 64
- ☐ 5 Basic Factors for judging Steel Stamps
- ☐ Master Marker Inspectors' Hammer Folder
- ☐ "National" Heat and Inspectors' Stamp Folder

For nearly a half century Pannier Bros. has specialized in the design and manufacture of standard and made-to-order Marking Devices. Hard-to-solve product marking problems can usually be licked by adaptation of some already existing device in our versatile line. Send your blueprints for advice and recommendation.

Steel, Type, Stamps, Dies; Embossing Equipments; Metal Tags, Checks, Badges, Stencils; Rubber Dies, Stamps.

PANNIER BROS. STAMP CO.
301 PANNIER BLDG., N. S., PITTSBURGH, PA.

▲ Mention Item NED-6201 when writing ▲

● You can't fool a micrometer! Your "mike" will prove the longer cutting life of TECO Cemented Carbide because you hold accurate tolerances for longer runs—produce more pieces between grinds.

Rigidly controlled in manufacture, TECO Cemented Carbide is harder, denser, more uniform in structure—therefore more resistant to wear and breakage in high-speed turning, boring and facing of the toughest metals.

Increase your output per machine with TECO Cemented Carbide. Available in tools and blanks, in grades, styles and sizes for practically every machining need. Write for detailed catalog.

TUNGSTEN ELECTRIC CORPORATION 660 39th Street, Union City, N. J.
Branch Office: 2906 Euclid Avenue, Cleveland, Ohio
Representative: Architects & Builders Bldg., Indianapolis, Ind.

TECO CEMENTED CARBIDE
Pioneers in Tungsten Carbides for over a Quarter Century

▲ Mention Item NED-6202 when writing ▲

Replace
WAR-WORN CASTERS
with **FORGEWELD**

CAPACITIES: Regular Duty to 3,600 lbs. per set . . . Heavy Duty 6,000 to 8,000. Drop-forged ½" thick top plate with integral king pin. Oversize SAE 1045 steel axle with Hyatt bearing. Swivel ball bearing of twin circles in hardened raceways. (Brinell 230).

• This is no time for *extra work* pushing casters worn past their full efficiency. This is a time for regular caster inspection, lubrication and replacement at the first suspicion. Remember, Service Casters save you time in their long run.

SERVICE CASTER & TRUCK DIVISION
OF DOMESTIC INDUSTRIES, INC.
578 N. Brownswood Ave., Albion, Mich.
Eastern Factory: 490-88 Somerville Ave., Somerville (Boston) Mass.
Toronto, Canada: United Steel Corporation, Ltd., SCAT Co. Division

SERVICE
Trucks, Casters and Specially Designed Lifting and Hauling Units

▲ Mention Item NED-6203 when writing ▲

New Processes & Materials

CUTTING TOOL ALLOY

Developed to fill gap that has existed between high speed steels and tungsten carbide, Speedaloy is supplied in solid tool bits, flats and extensive variety of tipped tools. This cast tungsten-chromium-cobalt alloy stands up better than high speed steel and has higher shock resistance than tungsten carbide, it is claimed. It can be run faster than high speed steel with about same depth of cut. It will machine all materials with exception of manganese steel and chilled iron, proving exceptionally suitable for chromium and nickel alloys, including stainless steel. Made by **Tungsten Alloy Mfg. Co.**, 65-A Colden St., Newark 4, N. J.

▲ Mention Item NED-6204 when writing ▲

NEEDLE COOLER

Designed for cooling needles on high speed industrial sewing machines used for seaming heavy fabrics, this needle cooler consists of blower attached to electric motor drive of sewing machine and tube to carry air to vicinity of needles. Device eliminates thread burning and breakage due to overheated needles. It also increases needle life and permits higher operating speeds, thus increasing production. Made by **Union Special Machine Co.**, 422 North Franklin St., Chicago 10, Ill.

▲ Mention Item NED-6205 when writing ▲

ALUMINUM CLEANING PROCESS

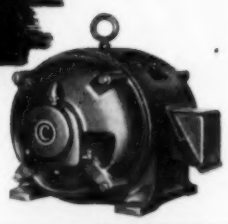
Eliminating severe action of alkalies and acids which are normally used for deoxidizing aluminum, Deox-Aluminum alkaline solution is used as dip for stripping and cleaning. It may be used at room or elevated temperature and operation requires from 10 seconds to 1 minute.

Aluminum is dipped into solution until uniform grey coat is deposited. Part is then rinsed and dipped in 30 to 50 per cent solution of nitric acid at room temperature. This removes grey coat and leaves metal chemically clean. Attack on aluminum surfaces is negligible. Grey coat may be left on surfaces. It acts as paint base, is galvanically protective, prevents oxidation in transit or storage, and under certain conditions acts as solder base. Solution may be used on alloys of aluminum in wrought, cast or forged forms.

Material is supplied in salt form to be mixed with water by user in amount of 12 ounces per gallon of water. Solution may be kept in steel, wood or glass containers; rubber lined tanks or any alkaline resisting material. Bath may serve as aluminum anodizing rack stripper. Venting is recommended if solution is used at temperatures above 120 degrees Fahr. Made by **Colonial Alloys Co.**, Technical Processes Div., 2154 E. Somerset St., Philadelphia, Pa.

▲ Mention Item NED-6206 when writing ▲

CENTURY
Mechanically and Electrically Balanced
MOTORS



Are Remarkably Free From Vibration

1. Century rotors are dynamically balanced on both ends.
2. The electrical and magnetic circuits are symmetrically constructed to produce an even torque.
3. Slots are skewed to produce a steady torque—eliminating jerks.
4. Cushion bumpers deaden the thud of the shaft shoulder against the bearing when the rotor moves lengthwise.
5. Sleeve bearings are diamond bored for accuracy after they are assembled in the end bracket.
6. Bearing surfaces on the shaft are ground to close tolerances and highly polished.

Your nearest Century Application and Service Engineer will gladly give you full details.

CENTURY ELECTRIC COMPANY
1806 Pine Street St. Louis, Missouri
Century MOTORS
1/6 to 600 horsepower
Offices and Stock Points in Principal Cities

One of the Largest EXCLUSIVE Motor and Generator Manufacturers in the World

309

▲ Mention Item NED-6207 when writing ▲

one man
SWEEPING DEPT. **$88.00**

With this machine one man (or woman) can clean approximately 16,000 square feet of open floor space in one hour . . Consistent with modern shop practice men with brooms are rapidly being replaced with this mechanized method . . releasing manpower to help speed the wheels of production, and relieving still further the burden of non-productive labor.

Efficient, rugged and easy to operate in large or small areas—$88.00 F.O.B. factory.

THE MOTO-MOWER CO.
Industrial Sweeper Division
4590 Woodward Ave., Detroit, Mich.

MOTO-SWEEPER
A SWEEPING CREW ON WHEELS!

▲ Mention Item NED-6208 when writing ▲

INCREASED PRODUCTION!
MORE ACCURATE WORK!!
SUPER-SMOOTH FINISH!
WITH THE **SUNNEN "MA"**
PRECISION HONING MACHINE

On internal cylindrical surfaces from .185" to 2.625" in diameter, the Sunnen Precision Honing Machine will handle production jobs to within .0001" limits — and produce a super-smooth finish of 2 to 3 micro-inches. In actual practice, jobs have often been held to .000025".

And, in addition, production has been increased — in some instances, up to 500%. Skilled labor is unnecessary. No jigs or fixtures necessary. Can be set up in less than one minute. Write for free bulletin giving complete information.

The coveted Army-Navy "E" waves over the Sunnen plant—evidence of the important part Sunnen equipment is playing in the war effort.

SUNNEN PRODUCTS CO.
7931 Manchester Av., St. Louis, Mo.
Canadian Factory; Chatham, Ontario

SUNNEN

Carbureter Idler Valve Jet. Hole is honed after reaming for smooth action.

Roller Bearing Outer Race. Finish improved from 12 micro-inches to 2 micro-inches.

Bearing. A very small part. 2 micro-inch finish necessary.

Hydraulic Metering Valve Stem. Hole .156" in diameter; reamed, heat treated, and then honed. Honing 3 times as fast as previous method.

Aircraft Instrument Panel Control Wire Bushing. Hole .187" diameter — held to .0002", stock removal .001", sixty per hour.

Header Die. Life of header dies increased 3 to 9 times over lapping. Knock out pin breakage practically eliminated.

Cast Iron Valve Stem Guide. ½ to one thousandth removed — 220 pieces per hour. Better finish and straighter hole.

Stainless Steel Load Compensator Valve Seat. Hole is honed to .0002" limit.

Shell Loading Die.

▲ Mention Item NED-6209 when writing ▲

TO HELP CLASSIFY SCRAP METAL QUICKLY AND EFFICIENTLY

To help you identify the common metals for proper scrap classification, we will be glad to send you, without charge, as many copies as you require of the wall charts "Identifying Metals by Spark Testing" (ask for Form 4666) or "Simple Tests for Identifying Metals by Appearance, Chip Test, and Blowpipe Test" (Ask for Form 2299D.) Some points to remember in your scrap collections are outlined here.

- **Explore your Plant and Property** and appoint someone to earmark every piece of machinery and equipment that can be spared for scrap.
- **Consult Your Local Scrap Dealer** to learn what size scrap brings highest returns—then use your oxy-acetylene cutting blowpipe to reduce quickly the large pieces to the desired sizes.
- **Centralize Your Scrapping Operations** to speed the work and to minimize waste motion, rehandling, and unnecessary tie-up of oxygen and acetylene cylinders.
- **Classify and Segregate** alloy steels and other special materials—including copper—to be sure they are used to best advantage and to obtain higher prices.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

▲ Mention Item NED-6210 when writing ▲

HERE'S THE MOST PRACTICAL SHOP STOOL ON THE MARKET!

It Swivels!
It's Adjustable!

IMMEDIATE DELIVERY

● Here's a sturdy, rugged, heavy-duty stool designed to meet ALL factory requirements. It's adjustable to four heights . . . it's built to stand rough treatment and the large comfortable swivel seat enables workers to perform their jobs quickly and efficiently. The "corrective" back rest preserves needed energy for fatigue periods.

● SEND FOR OUR CATALOG featuring swivel and stationary stools with adjustable backs. We build a stool to cover every factory need. Highest quality! and our prices beat all competition.

SPRINGFIELD FURNITURE WORKS
502 West Euclid Avenue, Springfield, Ohio

▲ Mention Item NED-6211 when writing ▲

Want to be Posted on Packings?

"NUTSHELL" *reviews of the fundamentals of packings design and application – prepared by Graton & Knight Company engineers.*

The first in a new series of 4-page folders is devoted to a brief discussion of CUP PACKINGS. Other issues will discuss other types of packings, packings materials, etc.

For a free copy, write Dept. N-11.

GRATON & KNIGHT COMPANY
WORCESTER 4 GRATON AND KNIGHT MASSACHUSETTS
Manufacturers of SPARTAN Leather Packings

▲ Mention Item NED-6212 when writing ▲

New Processes & Materials

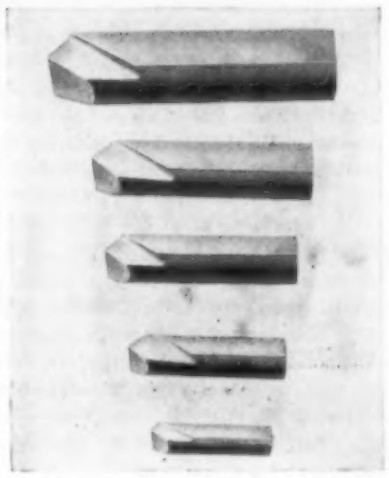
RESISTOR COIL COATING

Highly resistant to thermal shock, Lectraseel low-loss resistor coating is vitreous finish. It is claimed that its coefficient of expansion is almost invariably identical with that of ceramic cores now being used and meeting with government requirements.

Accelerated weather tests indicate that coil coated with this finish is immune to corrosion and should give satisfactory low-loss service over long period even under adverse conditions. Made by **Pemco Corp.**, Baltimore, Md.

▲ Mention Item NED-6213 when writing ▲

CARBIDE BORING TOOLS



Comprising relative complete set, this line of solid round Kennametal tools is completely ground for immediate use in precision boring machines. Heretofore, these tools were available only in solid round blanks which required that user grind points to suit his purpose.

Tools are designated as 27SR with side cutting edge angle of 30 degrees and end cutting angle of 38 degrees for use primarily on 30-degree boring bar; and 29SR having corresponding angles of 45 and 53 degrees for use primarily on 45-degree boring bar.

Five sizes are available in each style. Sizes are 3/32, ⅛, 5/32, 3/16 and ¼ inch. Tolerances are held to plus 0.000 and minus 0.001 inch diameter and plus 0.000 to minus 0.005 inch on all other dimensions. Tools are stocked in grades K3H and K4H for prompt delivery. Made by **Kennametal Inc.**, 171 Lloyd Ave., Latrobe, Pa.

▲ Mention Item NED-6214 when writing ▲

FLOOR PATCHING MATERIAL

Useful for filling cracks, small depressions, ruts or other imperfections and inequalities in concrete or cement floors, Emeri-Crete is a ready mixed floor patching material which can be applied immediately after water has been added. It contains very small particles of pure emery. They are mixed with special quick setting binder which permits use of floor in 6 or 7 hours after repair is made.

Material is packed in small, economical packages, permitting use of just right amount to do job at hand with no waste. Each box contains full instructions for its proper use as to mixing, water content, application and general procedure. Patches will not shrink, have great adhesive properties and if applied in accordance with directions will make repairs permanent. Made by **Walter Maguire Co.**, 334 West Forty-second St., New York 18, N. Y.

▲ Mention Item NED-6215 when writing ▲

Only Ozalid gives this versatility

"THE OZALID MODEL B"

OZALID whiteprints are produced in two steps—Exposure and Dry Development.

Dry Development distinguishes Ozalid from all other Processes. It eliminates baths, driers and plumbing connections. And it allows the use of sensitized materials which would become distorted or wouldn't develop if other methods were employed.

WITH OZALID YOU GET THIS VERSATILITY

- Prints having blue, black, maroon lines on a white background.
- Transparent papers, cloth and foils which can be used to make "duplicate originals" of your valuable tracings . . . reclaim soiled originals . . . to eliminate drafting waste when making design changes.
- Cut sheets as well as roll stock may be used. You can eliminate trimming waste.
- All prints produced in same manner—no variations in production.

Ozalid whiteprint machines are designed for large and medium production. Also, Dry Developing units for use with your present printer.

Write for catalog and samples of Ozalid whiteprints.

OZALID PRODUCTS DIVISION
General Aniline & Film Corporation • Johnson City, N. Y., U. S. A.
OZALID IN CANADA—HUGHES OWENS CO., LTD., MONTREAL

▲ Mention Item NED-6216 when writing ▲

BLACK DIAMOND
• PRECISION DRILL GRINDERS •

DRILL MORE HOLES IN THE AXIS BY KEEPING ALL SMALL DRILLS SHARP—ACCURATE CUTTING

WHEN small gauge or fractional drills are needed in quantities or in a hurry—it costs time and real money to put an experienced machine operator to work on them.

With a Black Diamond however even the most inexperienced apprentice can keep all small drills sharp to meet any emergency—with lips accurately ground to exactly the same length—at the proper angle and with correct clearance for fast, precision drilling.

Black Diamonds cut 50% and more on grinding costs, save expensive drill stock, reduce drill breakage and actually pay for themselves in a short time.

SAWS BLACK DIAMOND TOOLS

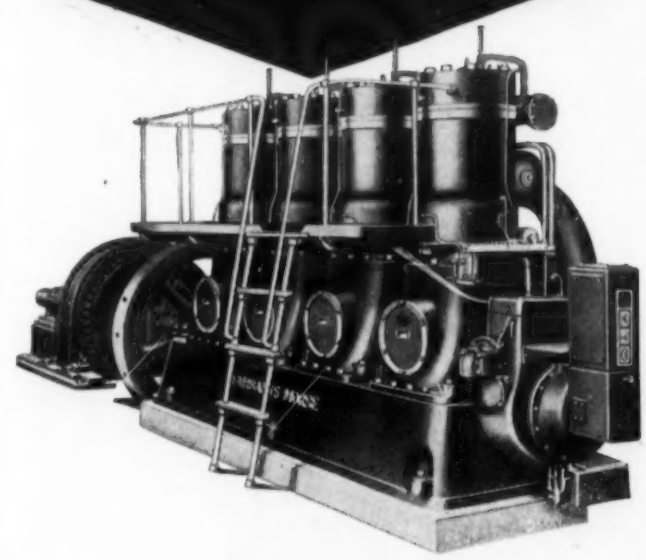
And when you order be sure to include the Web Thinning Attachment which grinds Notched, Colton, or so called Crank Shaft points.

Write for folder today.

BLACK DIAMOND SAW & MACHINE WORKS, Inc.
NATICK, MASSACHUSETTS

▲ Mention Item NED-6217 when writing ▲

Who's BOSS at Your Plant?



● You are—of course—as long as the power supply doesn't let you down.

Many manufacturers throughout the country have forestalled this possibility by generating, and thus controlling, their own power with Fairbanks-Morse Diesels.

Designed to operate with minimum fuel and maintenance cost in *sustained* service, F-M 2-cycle, slow-speed Diesels provide dependable power when dependability is of primary consideration—and low cost power at all times.

Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago. Branches and service stations throughout the United States and Canada.

FAIRBANKS-MORSE
DIESEL ENGINES · PUMPS · MOTORS · GENERATORS · WATER SYSTEMS · SCALES · STOKERS · FARM EQUIPMENT · RAILROAD EQUIPMENT
Diesels

▲ Mention Item NED-6218 when writing ▲

New 16-page CATALOG on *Aircraft* RELAYS and ACCESSORIES

★ This 16-page catalog gives operating characteristics, dimensional drawings, wiring diagrams, and general construction information on aircraft relays, contactors, solenoids and aircraft accessories. Among the relays described are five variations of the versatile B-2A Relay built to A.A.F. specifications.

In addition, there are several general purpose aircraft-radio relays; a tiny midget relay weighing less than an ounce; heavyweight and the new lightweight solenoid contactors (A.A.F. types A-3, B-4, B-5A, B-6A, B-7A); eight solenoids; six types of gun switch handles; a control wheel; propeller protractor; and a bomb and flare release.

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1626 WEST WALNUT STREET CHICAGO, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN WAR INDUSTRY

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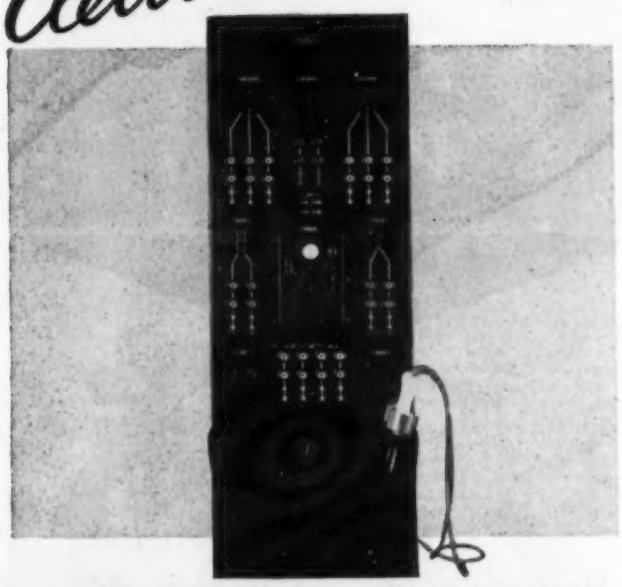
For those *Electrical Testing* JOBS



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furnish the most convenient and quickest method of doing electrical test jobs of all sorts.

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Also manufacturers of electric stop clocks and Chronotachometers.

THE STANDARD ELECTRIC TIME CO.
"Split-Second Measurement by Standard"
SPRINGFIELD, MASSACHUSETTS

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NEW *Literature* AND *Catalogs*

ARC WELDING—20-page illustrated vest pocket guide for welders No. EW-95 outlines essentials of proper welding procedure and explains what is wrong with different types of faulty welds—issued by The Hobart Bros. Co., Troy, O.

▲ Mention Item NED-6221 when writing ▲

HEAT TRANSFER EQUIPMENT—8-page illustrated catalog No. 143 covers line of heat transfer equipment—included are units for aeronautical use, cooling and condensing, marine and industrial service, and air conditioning—issued by Young Radiator Co., 729 Marquette St., Racine, Wis.

▲ Mention Item NED-6222 when writing ▲

INDUSTRIAL INSTRUMENTS—illustrated bulletin No. DM-006 is guide to line of air and electric operated controllers, recorders, indicators and telemetering recorders and controllers—issued by The Bristol Co., Waterbury, Conn.

▲ Mention Item NED-6223 when writing ▲

NON-METALLIC MATERIALS—15-page illustrated booklet describes seven different non-metallic materials which may be used for various applications such as insulation, gears, pipe fittings and commutator rings—issued by Continental-Diamond Fibre Co., 1 Chapel St., Newark, Del.

▲ Mention Item NED-6224 when writing ▲

OIL PURIFICATION — 8-page illustrated bulletin covers Honan-Crane Continuous oil purification equipment—typical applications are described and shown—issued by Honan-Crane Corp., 305 Wabash Ave., Lebanon, Ind.

▲ Mention Item NED-6225 when writing ▲

ELECTRICAL INSTRUMENTS—19-page illustrated bulletin No. GET-1173 presents concise discussion of characteristics of electrical instruments, what makes them operate and individual limitations of various types—issued by General Electric Co., Schenectady, N. Y.

▲ Mention Item NED-6226 when writing ▲

STAINLESS STEEL—three illustrated bulletins Nos. SL-2009, SL-2010 and SL-2011 are descriptive of seven different types of stainless steels—issued by Firth-Sterling Steel Co., McKeesport, Pa.

▲ Mention Item NED-6227 when writing ▲

ELECTRICAL CONNECTORS—28-page illustrated DP bulletin No. 7 includes description, applications, illustrations and tabular data on twelve type DP rack and panel electrical connectors—issued by Cannon Electrical Development Co., 3209 Humboldt St., Los Angeles 31, Calif.

▲ Mention Item NED-6228 when writing ▲

SOUND EQUIPMENT—28-page illustrated catalog is descriptive of line of amplifying, recording and inter-communication systems in sound equipment field—issued by Bell Sound Systems, Inc., 1192 Essex Ave., Columbus, O.

▲ Mention Item NED-6229 when writing ▲

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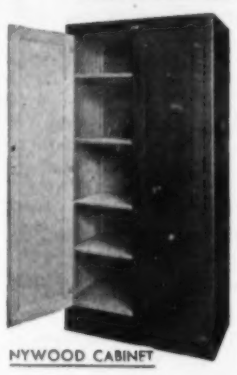
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are built for:
Efficient Dependable Performance in A Small Space without Excess Weight

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Pressure to 150 lbs. per square inch—Volume to 30 G.P.M.—Weight from 3 lbs.

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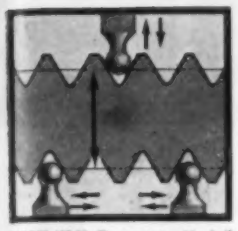
MODEL 45B-100. The upper, sensitive roller contact actuates the Dial Indicator.



MODEL 45B-80. The upper, sensitive ball contact actuates the Dial Indicator. Both lower ball anvils float sidewise independently to compensate for any variation in lead.

No conventional type of gage, whether ring gage or roller-type snap gage, can tell you so **definitely** and so **quickly** the degree of accuracy of a pitch diameter as these two types of Dial Indicator Gages. Neither depend upon the uncertain sense of touch.

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SAVE BASIC TRAINING for Your Screw Driving Army

NO PRACTICE NEEDED TO DRIVE PHILLIPS SCREWS

It's no problem to replace men who have left your screw driving army for the fighting front, *if you use Phillips Recessed Head Screws.* Anybody can "take over", without training, and do a good job!

The scientifically designed Phillips Recess makes screw driving fool-proof. It automatically centers the driving force and eliminates all driving troubles... fumbling, wobbly starts... slant-driven screws... burred and broken screw heads... dangerous screw driver skids.

Screw and driver "become one unit", making such efficient use of turning power that driving is much easier and faster, regardless of driving method. And, power driving is made practical.

Compare the cost of driving Phillips and slotted head screws. You'll find that it actually costs less to have the advantages of the Phillips Recess!

PHILLIPS *Recessed Head* SCREWS

Wood Screws • Machine Screws • Self-tapping Screws • Stove Bolts

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▲ Mention Item NED-6235 when writing ▲

New Literature—Continued

WATER CONDITIONING—two illustrated technical papers Nos. 84 and 85 discuss conditioning of water for industrial purposes—former covers chemical treatment of boiler water; latter covers chemical treatment of cooling water—issued by W. H. and L. D. Betz, Gillingham and Worth Sts., Philadelphia 24, Pa.

▲ Mention Item NED-6236 when writing ▲

EXHAUST PYROMETERS—6-page illustrated bulletin No. 2819 is descriptive of Alnor exhaust pyrometers for diesel engines—representative installations are shown—issued by Illinois Testing Laboratories, Inc., 430 N. LaSalle St., Chicago 10, Ill.

▲ Mention Item NED-6237 when writing ▲

RESISTANCE STANDARDS & BRIDGES — 12-page illustrated bulletin No. 100 covers line of resistance standards and resistance bridges—operational data is included—issued by Rubicon Co., Ridge Ave. at Thirty-fifth St., Philadelphia, Pa.

▲ Mention Item NED-6238 when writing ▲

OIL HYDRAULICS—4-page illustrated bulletin No. M-19 describes line of hydraulic units and points out diversified type of equipment to which oil hydraulics is being applied—issued by The Denison Engineering Co., 1152 Dublin Rd., Columbus, O.

▲ Mention Item NED-6239 when writing ▲

MOTOR MAINTENANCE—88-page illustrated handbook No. 143 tells how to keep motors and generators operating continuously at peak efficiency without dismantling—issued by Ideal Commutator Dresser Co., 1032 Park Ave., Sycamore, Ill.

▲ Mention Item NED-6240 when writing ▲

BABBITT—6-page illustrated folder describes Stonewall babbitt—included is table which indicates amount of babbitt required for any bearing of inside dimensions from 1 to 20 inches with liner from 1/16 to 1 inch in thickness—issued by United American Metals Corp., Brooklyn, N. Y.

▲ Mention Item NED-6241 when writing ▲

ARC WELDING ACCESSORIES—36-page illustrated bulletin No. GEA-2704C covers complete line of arc welding accessories for men and women operators—prominently featured is chrome leather, asbestos and flameproofed duck protective clothing—issued by General Electric Co., Schenectady, N. Y.

▲ Mention Item NED-6242 when writing ▲

VALVES—9½ x 12¼-inch chart simplifies recognition of valves for men and women in industry—lists four basic types, shows their appearance and outlines their service operation and applications—issued by American Chain & Cable Co., Reading-Pratt & Cady Div., Dept. S. P., Bridgeport, Conn.

▲ Mention Item NED-6243 when writing ▲

ELECTRONIC LEVEL CONTROLS—4-page illustrated bulletin covers series of electronic relays for level control of liquids and powders—probe fittings and probes are also included—issued by Photoswitch Inc., 77 Broadway, Cambridge 42, Mass.

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1. High resistance to oils, solvents, acids, caustics, etc.
2. Fabric reinforcing makes them virtually snag-proof and tear resistant.
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5. Comfortable on the hands (no rubber contact).
6. Easy on and off.
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TIME DELAY RELAYS
Designed for use on alternating current circuit to supply an adjustable or fixed time delay between the closing of one circuit and the closing or opening of a second circuit.
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TYPE TD1C
Industrial Time Delay
made for flush or surface mounting—selection of many time ranges—instantaneous reset—micrometer setting—snap switch contact—progress indicator—attractive design.
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Automatically controls a sequence of on and off operations of a single or a multiple number of electrical circuits in accordance with a predetermined operating program.
Write for bulletin No. 3000

INTERVAL TIMERS ● CYCLE TIMERS ● REPEAT CYCLE TIMERS ● IMPULSE & SPECIAL TIMERS ● TIME SWITCHES ● SIGNAL CONTROL SWITCHES ● SAUTER TIME SWITCHES ● PROGRAM SWITCHES ● MULTIPLE CONTACT TIMERS

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Relief supplies for American prisoners of war aboard the SS. GRIPSHOLM bound for the Far East

Signode Helps Delivery of Relief Supplies for American Prisoners of War

Model L1 Strapping Machine combines the tensioning and sealing operations of the Signode Steel Strapping System into one unit.

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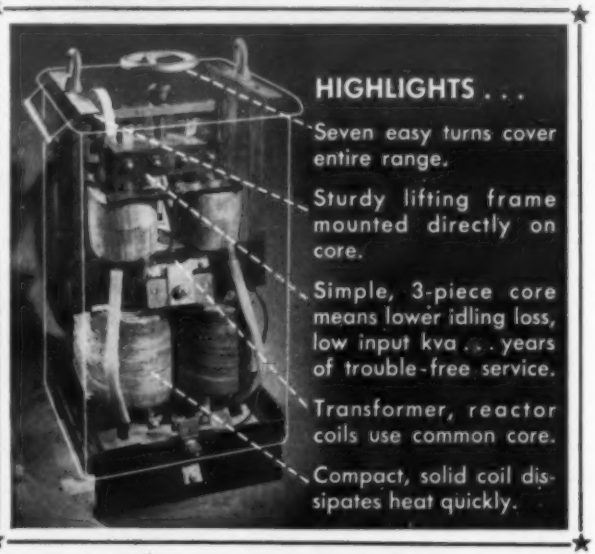
PRODUCT OF THE MONTH



MILWAUKEE, WIS.—Allis-Chalmers announces the new Ampac "400" a-c welder . . . engineered and built during the war to meet 24-hour-day requirements. It employs the simplest possible construction of a continuously variable welder—is exceptionally efficient and rugged. B-6302.

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A 1670

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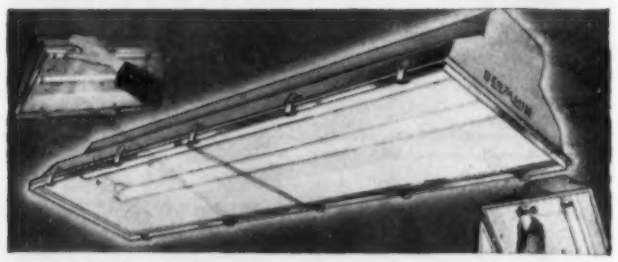
Many War Plant
FLUORESCENT LIGHTING
Improvements *Call for...*



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PORCELAIN ENAMEL STEEL UNITS
Listed by Underwriters' Laboratories for Class II, Group G, Class III and Class IV Hazardous Locations

Where manufacturing operations require more light and the location requires dust-tight fixtures, specify Benjamin Sealed-Flo units. These extremely durable porcelain enamel fixtures, with their one piece steel reflector and special type glass cover, seal the interior against dust, dirt and dampness so that lighting efficiency is easily maintained.

Units are available for two and three lamp arrangements and embody many exclusive Benjamin features which facilitate installation, relamping and maintenance. Complete Catalog Bulletin on these units will be sent without cost or obligation. Write Product Information Dept. W, Benjamin Electric Mfg. Co., Des Plaines, Ill.

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Lighting Equipment
Distributed Exclusively Through Electrical Wholesalers

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New Literature—Continued

SLOTTING ATTACHMENT—4-page illustrated bulletin No. E-843 describes Universal Double Duty Slotmaster—detailed information and illustrations are included regarding three conventional and seven special setups and automatic adaption of this milling machine slotting attachment—issued by Special Machinery Div., Experimental Tool & Die Co., 12611 Greiner Ave., Detroit, Mich.

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MATERIALS HANDLING—56-page illustrated catalog covers overhead handling equipment for aircraft and ceramic plants, food industries, foundry and machine shops—advantages of switch, trolley and crane shown—issued by The American MonoRail Co., 13116 Athens Ave., Cleveland, Ohio.

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FOUNDRY EQUIPMENT—20-page reference catalog No. 40, entitled "The American Line," presents complete line of company's foundry products—operating views of typical installations of these products in leading industrial plants are included—issued by American Foundry Equipment Co., 508 S. Byrkit St., Mishawaka, Ind.

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SCREENS—16-page illustrated catalog entitled, "In Step With the Times," covers outstanding features of complete line of projection screens and photographic accessories—non-metal screens available for immediate delivery without priority are also covered—issued by Radiant Mfg. Corp., 1140-46 West Superior St., Chicago, Ill.

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ELECTRIC FURNACES—82-page illustrated catalog No. GEA-4049 discusses electric furnaces for providing controlled, precision heat-treatment—also covered is standard and special control equipment for furnaces—issued by General Electric Co., Schenectady, N. Y.

▲ Mention Item NED-6258 when writing ▲

AIR CONDITIONING—illustrated bulletin, entitled "Air Recovery-Heat Recovery", complete with charts, tables, illustrations and specific examples, points out how savings can be effected in fuel through use of air recovery equipment—issued by W. B. Connor Engineering Corp., 116 East Thirty-second St., New York 16, N. Y.

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STENCIL MACHINES—Illustrated "Shippers Handy Helper Catalogue" gives complete information about marking shipments and handling shipments for export, together with U. S. Army Specifications—included is metric conversion table—issued by Diagraph-Bradley Stencil Machine Corp., 3749 Forest Park Blvd., St. Louis 8, Mo.

▲ Mention Item NED-6260 when writing ▲

CLEANING COMPOUNDS—16-page illustrated booklet describes use of Oakite Composition No. 90 for anodic degreasing of steel and copper—material provides chemically clean, smut-free surfaces for plating and other finishing operations—issued by Oakite Products Inc., 32G Thames St., New York 6, N. Y.

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Lyon Work Bench. No. 5100
With Half Depth Shelf, Back Stop and Two End Stops. 60" long, 28" deep. $17.55. Drawer 12" wide, 16" deep, 4" high. $2.95 extra.

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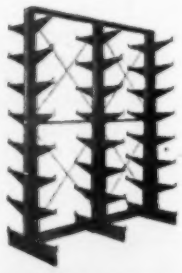
Each section is 36" wide, 31-1/2" deep, 79-5/16" high. As illustrated $58.25



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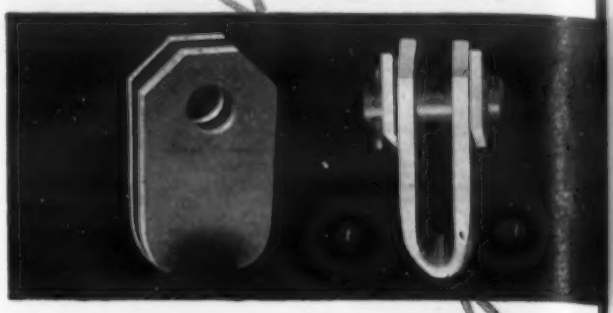

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Fight WITH WAR BONDS

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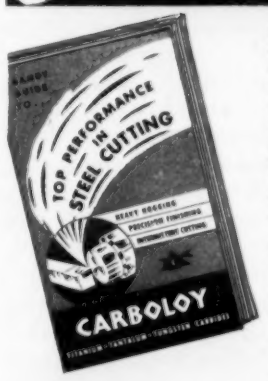
Guide to Top Performance when *Cutting Steel*



Send for this New, Pocket-size Manual

For top performance when you cut steel with carbide tools • Cut at high speeds, in general, not less than 200 feet per minute • Use feeds not less than .010" per revolution (for medium and heavy cuts), and preferably .015" to .025" • Fit correct chip breaker to each job (the ground-in, step-type is usually best) • If you use a coolant, provide heavy, continuous stream • Keep tools sharp (excessively dull tools cause breakage) • Use rigid set-ups; with minimum overhang, and part chucked firmly. These factors are particularly important for best results.

Important, too, is the type of carbide you select. Today, more than 60% of all Carboloy Cemented Carbide produced for machining purposes is used for cutting steel. In leading war plants throughout the nation—you find Carboloy tools giving top performance on all types of steel cutting, ranging from extra heavy jobs to light, high-speed precision finishing.

A new 16-page pocket manual on steel cutting, to help your plant get maximum results, is available free on request. In quantities, for general distribution, if desired.

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Sole makers of the Carboloy brand of cemented carbides
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CARBOLOY
(TRADEMARK) CEMENTED CARBIDES

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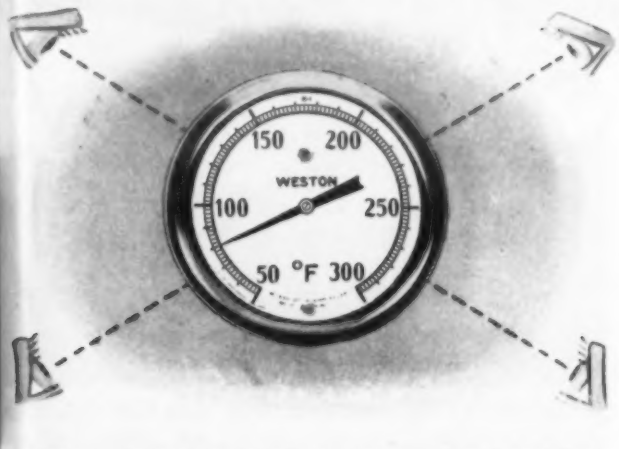
The "eyes" have it . . .



The WESTON gauge-type thermometer is *far more readable*. But the big point is that *seein's believin'* whenever you read a WESTON. Because its high initial accuracy (1% over the entire scale) is maintained over long periods of time. The reason is . . . even the temperature element in the WESTON is all-metal! There is no gas, no liquids, no fragile parts. Thus it can withstand vibration or other mechanical abuse without damage or without affecting its accuracy. It's easier to install, too, and no corrections are necessary for capillary or elevation.

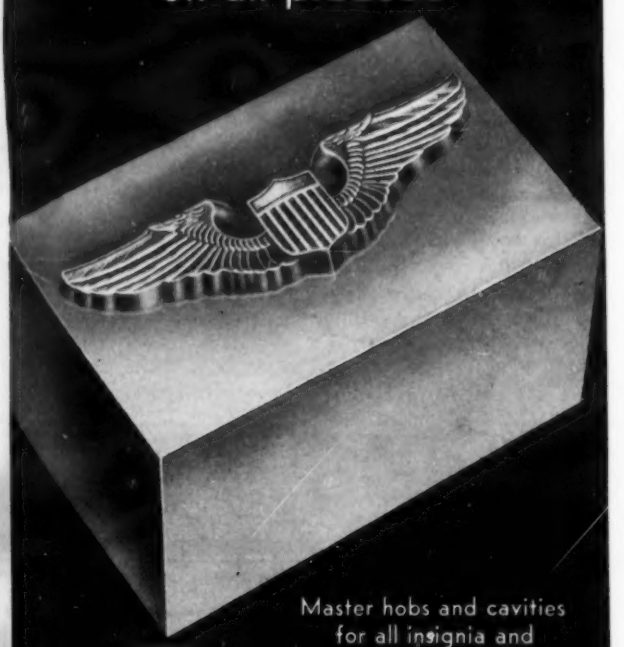
Booklet describing these rugged and dependable thermometers, including types, stem lengths, prices, etc., gladly sent on request. Weston Electrical Instrument Corporation, 663 Frelinghuysen Ave., Newark 5, N. J.

WESTON *All-Metal* TEMPERATURE GAUGES

▲ Mention Item NED-6266 when writing ▲

STEEL STAMPS AND DIES

For embossing and stamping lettering and designs on all products



Master hobs and cavities for all insignia and buttons.

Sossner STEEL STAMPS for every marking purpose . . for use by hand or machine. A 33 year reputation for precision workmanship!

TAPS • GAGES • CUTTING TOOLS

SOSSNER

161 Grand Street, New York City, N. Y.

▲ Mention Item NED-6267 when writing ▲

New Processes & Materials

STAINLESS STEEL ELECTRODES—4-page chart compares arc welding electrodes for stainless steel made by fifteen leading manufacturers—supplementary table shows chemical analysis of Arcaloy stainless steel electrodes—issued by Alloy Rods Co., 510 Prospect St., York, Pa.

▲ Mention Item NED-6268 when writing ▲

DRAFT CONTROL—16-page illustrated bulletin No. 800A shows how Draft-A-Justor converts boiler stack losses into savings of 10 to 30 per cent in fuel consumption over natural draft boilers—issued by Preferred Utilities Co., Inc., 33 W. Sixtieth St., New York, N. Y.

▲ Mention Item NED-6269 when writing ▲

MATERIALS HANDLING—64-page illustrated catalog No. 435 covers complete line of vibratory material handling equipment—installations and applications of various types of this equipment are shown—issued by Syntron Co., 405 Lexington Ave., Homer City, Pa.

▲ Mention Item NED-6270 when writing ▲

LABORATORY PRESSES—5-page illustrated bulletin No. 350-A gives complete pictures of line of hydraulic laboratory presses and equipment for testing and experimental work to obtain data needed in process or production problems—issued by Watson-Stillman Co., P. O. Box 26, Roselle, N. J.

▲ Mention Item NED-6271 when writing ▲

POWER TRANSMISSION—31-page illustrated booklet, "Is Industry's Power Transmission Program Geared To War Production Demands" explains need for planned power transmission program, maintenance and salvage—issued by Cling Surface Co., 1048 Niagara St., Buffalo, N. Y.

▲ Mention Item NED-6272 when writing ▲

LEVEL—4-page illustrated bulletin is descriptive of Red Glass level designed for shipbuilders and shipfitters—red glasses can be set to any pitch or declivity up to and including 2 inches to foot—issued by Stanley Tools Div., The Stanley Works, 104 Elm St., New Britain, Conn.

▲ Mention Item NED-6273 when writing ▲

INSULATION TESTER—12-page illustrated bulletin No. 1735 describes Megger insulation testers—instruments are of generator and direct reading ohmmeter type, operating simply by turning crank and reading scale—issued by James G. Biddle Co., 1215 Arch St., Philadelphia, Pa.

▲ Mention Item NED-6274 when writing ▲

PUNCH PRESSES—4-page illustrated bulletin No. 24 is concerned with utility hand operated turret punch presses for economical piercing of sheets and plates—two types are described and illustrated—issued by Wiedemann Machine Co., 1815 Sedgley Ave., Philadelphia, Pa.

▲ Mention Item NED-6275 when writing ▲

DIAMOND TOOLS — 15-page illustrated booklet describes blade type diamond tools for wheel dressing—two or more diamonds contact wheel at right angles to its axis and cut on same track as line of wheel rotation—issued by Wheel Trueing Tool Co., 3200 W. Davison Ave., Detroit 6, Mich.

▲ Mention Item NED-6276 when writing ▲

No danger of dinging thin skins with *this* rivet set!

An oversize Microglass finished face (2½" in diameter) plus light weight enable this new type Aero Tool Flush Set to do the difficult job of riveting thin skins *without dinging*. Even in the hands of unskilled labor, extra large face on this set reduces rejects and speeds flush riveting operations.

Forged from tool steel and heat treated according to the latest metallurgical methods, the even grain flow of this flush set has terrific impact resistance and minimum fracture possibility. Aero Tool's exclusive Microglass Finish imparts a mirror-like, ultra-smooth finish to crown surfaces that protects thin skins from dents and abrasions while riveting.

Write for catalog listing this and other Aero Tool Precision Products for better, faster riveting.

Tools are weapons—treat 'em right

AERO TOOL CO.
231 WEST OLIVE AVENUE
BURBANK, CALIF. • Dept. NED

▲ Mention Item NED-6277 when writing ▲

G. E. RECOMMENDS Combination Starters Instead of Separately Mounted Motor-circuit Switches and Starters

BECAUSE—they save material. By buying one compact unit—combining the motor-circuit switch and the magnetic starter—you save copper wire, steel conduit, and fittings needed to install two separate devices.

BECAUSE—they can be installed easily by "green" crews. G-E combination starters eliminate one complete mounting job on every installation—a saving of 50 per cent. Completely wired at factory, they save up to 40 per cent in wiring time.

BECAUSE—they reduce costly accidents. Combination starters make it possible to mechanically interlock the switch and door so that the door cannot be opened while the switch is closed.

For further information write for Bulletin GEA-3715, *General Electric, Schenectady, N. Y.*

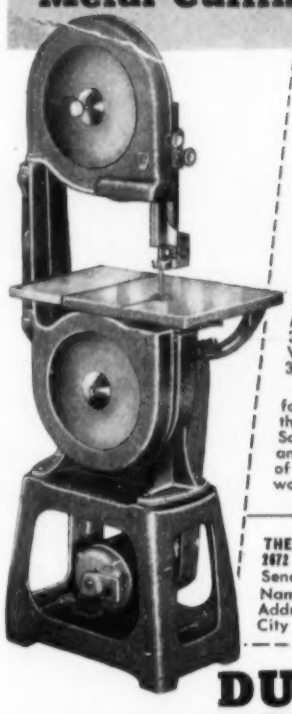
General-purpose indoor type through NEMA size 5. Below, new high-voltage combination for 2300- and 4000-volt motors.

GENERAL ELECTRIC

▲ Mention Item NED-6278 when writing ▲

A basically improved low-cost

Metal Cutting BAND SAW



Many Exclusive Features

Has heavy machined cast-iron trunions; special roller blade guides which reduce blade crystalization, lessen blade breakage; new design which permits all adjustments to be made from front while saw is in operation; New Departure Ball Bearings; machined dovetailed ways with adjustable steel gibs; many other features. Can be adjusted to obtain standard wood cutting speeds by a flip of a lever. Metal cutting speeds: 200, 300, 400 and 560 R.P.M. Wood-cutting speeds: 2000, 3000, 4000 and 5600 R.P.M.

SEND FOR CATALOG

for full details and prices on the DURO Metal Cutting Band Saw. Also lists specifications and prices of complete line of DURO low cost metal and woodworking machines.

THE DURO METAL PRODUCTS CO.
2672 N. Kildare Ave., Chicago, Ill.
Send me latest DURO Catalog.
Name .....
Address .....
City ..... State .....

DURO TOOLS
MACHINE TOOL DIVISION

ALSO MAKERS OF DURO HAND TOOLS

▲ Mention Item NED-6279 when writing ▲

SENSITIVE TAPPING MACHINES

give better results

Special design, improved dry-clutch and precision workmanship make Procunier Tapping Machines *so sensitive* that even unskilled operators can detect an overloaded or dull tap—or determine instantly when tap hits bottom of hole. That means greatly decreased tap breakage. Other features of Procunier design that assure faster, more accurate tapping are: The extra-long spiral compensating springs, with wide range of hand screw adjustments, maintain pre-set tap feeding and reversing pressure INDEPENDENT OF THE OPERATOR; Four speeds, ranging from 390 to 2050 RPM efficiently handle jobs for which conventional high speed tapping machines are inadequate; One machine handles tap sizes from No. 2 to ½" through two interchangeable heads.

SEND FOR SPECIAL BULLETIN

PROCUNIER
For Faster, More Accurate Tapping

THE PROCUNIER SAFETY CHUCK CO.
18 S. Clinton St., Chicago, Ill.
Send me bulletin on:
☐ Universal Tapping Machines
☐ High Speed Tapping Heads
☐ Tru-Grip Tap Holders
Name .....
Address .....
City ..... State .....

MAIL THIS COUPON TODAY

▲ Mention Item NED-6280 when writing ▲

Are you acquainted with the advantages of small metal parts and bearings made of powdered iron and bronze by Powder Metallurgy? This information is now available in the 32 page catalog just published by the Keystone Carbon Company.

Of special interest is the Designers' Aid Section which contains data on the applications and type of parts best made by the compression method; their design and physical properties.

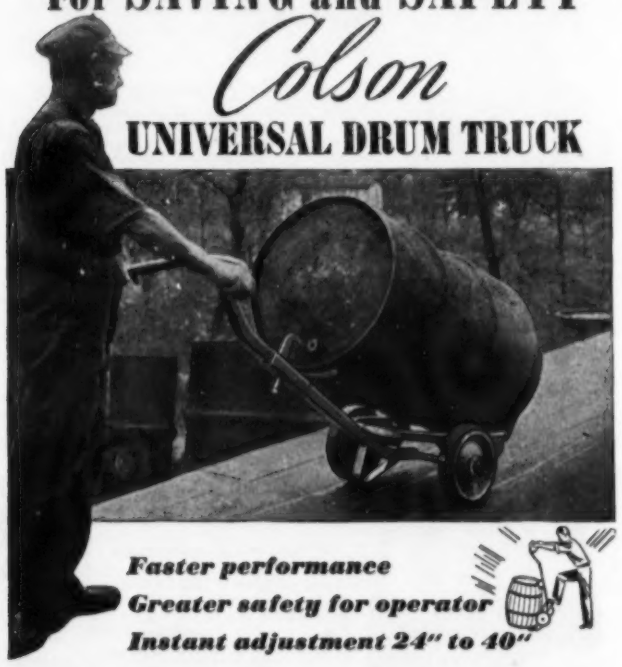
"Powder Metallurgy" also deals with specifications and characteristics of "Selflube" Porous Bearings. Keystone's Engineering Service can help you boost production, conserve manpower, and save critical materials.

Manufacturers of Precision Moulded Products

KEYSTONE CARBON CO., INC.
SAINT MARYS, PENNA.

▲ Mention Item NED-6281 when writing ▲

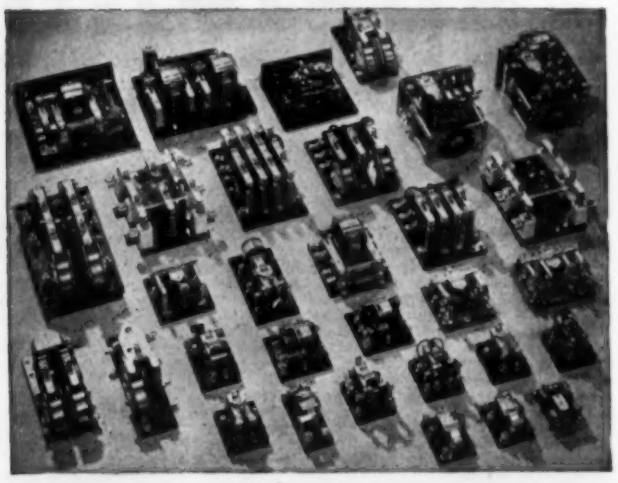
For SAVING and SAFETY
Colson
UNIVERSAL DRUM TRUCK



Faster performance
Greater safety for operator
Instant adjustment 24" to 40"

THE COLSON CORPORATION
ELYRIA, OHIO
Sales Offices and Dealers in Principal Cities
CASTERS • INDUSTRIAL TRUCKS AND PLATFORMS • LIFT JACK SYSTEMS

▲ Mention Item NED-6282 when writing ▲



WL RELAY BULLETINS

These Bulletins are available describing light, intermediate and heavy duty relays in various types and contact combinations. Send for the data bulletins of interest to you.

WARD LEONARD
RELAYS • RESISTORS • RHEOSTATS
Electric control WL devices since 1892.

WARD LEONARD ELECTRIC CO., 51 South St., Mount Vernon, N. Y.

▲ Mention Item NED-6283 when writing ▲

New Literature—Continued

REPRODUCTION EQUIPMENT—24-page illustrated booklet is descriptive of Hunter Electro-Copyist which has many reproduction applications in business and industrial operations—operation is outlined and specifications are listed—issued by Hunter Electro-Copyist Inc., Duguid Bldg., Syracuse, N. Y.

▲ Mention Item NED-6284 when writing ▲

TURRET LATHE TOOLS—26-page illustrated engineering data book covers standard and special tools available for Foster Fastermatic automatic turret lathes—copies available to those owning and operating these machine tools—issued by International Machine Tool Corp., Foster Div., Elkhart, Ind.

▲ Mention Item NED-6285 when writing ▲

ARC WELDING—1295-page illustrated book, "Studies in Arc Welding—Design, Manufacture and Construction", consists of 98 outstanding papers on arc welding, submitted by trained technicians and engineers in company—book is priced at $1.50 per copy in U. S. and $2.00 elsewhere—issued by The James F. Lincoln Arc Welding Foundation, P. O. Box 5728, Cleveland, O.

▲ Mention Item NED-6286 when writing ▲

RENEGOTIATION—23-page booklet, "Renegotiation", discusses subject as it relates to machine tool industry—outlines belief that procedure is contrary to national interest during either war or peace and unnecessarily endangers future existance of certain classes of business—issued by National Machine Tool Builders' Assoc., 10525 Carnegie Ave., Cleveland 5, O.

▲ Mention Item NED-6287 when writing ▲

PUMPS—60-page illustrated catalog No. 43 is descriptive of Westco industrial turbine type pumps—brief information is also given on line of Pomona pumps—issued by Joshua Hendy Iron Works, Pomona Pump Co. Div., 609 E. Commercial St., Pomona, Calif.

▲ Mention Item NED-6288 when writing ▲

GRINDING WHEELS—4-page illustrated folder contains facts about Koolpore grinding wheels—tables list tool and cutter and surfacing recommendations—sulphur coating on inside surface of all cylinders prevents penetration of lubricant forcing it between wheels and working surfaces—issued by Bay State Abrasive Products Co., Westboro, Mass.

▲ Mention Item NED-6289 when writing ▲

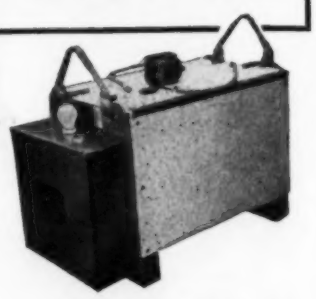
HEAT TREATING ATMOSPHERES—16-page illustrated booklet No. B-3251 explains chemical reaction, composition cost, application and equipment needed for four basic heat-treating atmospheres; Endogas, Exogas, Monogas and Ammogas—issued by Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

▲ Mention Item NED-6290 when writing ▲

PORTABLE ELEVATING TABLE—4-page illustrated bulletin No. 133 describes hydraulic portable elevating table—table is operated by foot pedal leaving workman's hands free to manipulate load—issued by Lyon-Raymond Corp., 1320 Madison St., Greene, N. Y.

▲ Mention Item NED-6291 when writing ▲

a.c.f. 60-CYCLE INDUCTION HEATER
FOR THE HEATING OF MACHINERY PARTS



Used in connection with one or two induction coils, this a.c.f. 60-cyle low voltage transformer has many advantageous uses in war work in the heating of such machinery parts as nitralloy bushings, crankshafts, shell cartridge case bases, etc.
In an aircraft engine plant it is employed to expand a crankshaft, 4¼ in. O. D., 3¾ in. I. D., for a length of 10 inches for insertion of chilled bushings for a shrink fit. The shaft is heated to 400 deg. F. in 3 minutes.
The bushing application requires 75 sec. to bring a 3⅞ by 3⅝ in. bushing with a ¼ in. wall thickness to a temperature of 500 deg. F. on 25 kva. input. Two bushings, heated simultaneously in two coils served by one transformer, are brought up to temperature in the same interval on a 60 kva. input.

AMERICAN CAR AND FOUNDRY COMPANY
30 CHURCH STREET, NEW YORK, N. Y.
CHICAGO DETROIT ST. LOUIS

▲ Mention Item NED-6292 when writing ▲

A POWERFUL, VERSATILE LITTLE CLAMP

This new improved Model KP 830 is now about the strongest clamp for its size on the market.

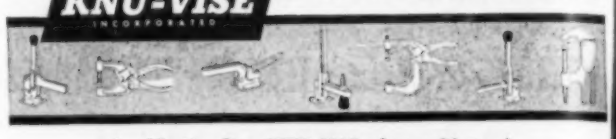
Its U-shaped bar, providing for horizontal positioning of pressure spindle, permits the clamping of many different things of various thicknesses without disturbing initial location of clamp.

Because both bar and handle are in horizontal position when clamp is closed, space above clamp is clear and offers no obstructions when performing operations which require work to be moved under drills, etc.

Clamp measures 4¾" overall, is 1⅝" high, and is capable of exerting a hand pressure of 340 lbs.

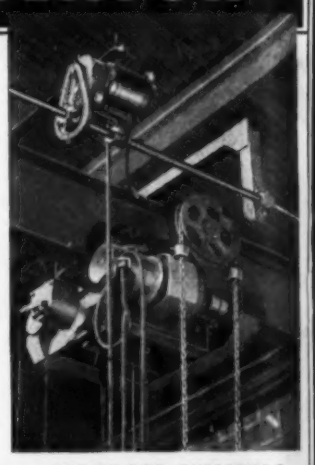
2212 8th St., Detroit 16, Mich.
4328 San Fernando Rd., Glendale, Calif.

KNU-VISE INCORPORATED



▲ Mention Item NED-6293 when writing ▲

MOTOR TRAVEL for Hand Traveled Crane Bridges
THE *Northern* "TRAVELATOR"



Less than half a day required for application—no dismantling of crane—any good mechanic can apply the Northern "Travelator."

It provides pendant push button controlled electric power travel for hand traveled bridges within the range of 10 tons capacity.

The "Travelator" is an inexpensive, thoroughly effective durable device.

WRITE FOR BULLETIN 3

Northern
ENGINEERING WORKS
2615 Atwater Street, Detroit, Michigan
Offices in Principal Cities
Northern Crane & Hoist Works Limited, Windsor, Canada

▲ Mention Item NED-6294 when writing ▲

A MOTOR

WITH A BRAIN

Motors have "brains" when they are equipped with built-in Klixon Protectors. For these simple, inexpensive devices just won't let motors overheat and burn out.

While the motor is producing at peak capacity, the Klixon Protector stands idly by. But as soon as heating from overloads crosses the danger line, the protector automatically cuts off the power . . . waits for the motor to cool to a safe operating temperature . . . then lets it start again either automatically or by manual reset (*both types available*).

Play safe, specify Klixon Protectors in the motors you buy. They are available as a built-in feature with AC motors, all sizes; DC motors up to 30 volts.

SPENCER THERMOSTAT CO., ATTLEBORO, MASS.

KLIXON

▲ Mention Item NED-6295 when writing ▲

ANGLES OF SMALL OR LARGE CASTINGS CAN NOW BE CHECKED OR MACHINED WITH *EASE and SPEED*

The turn of a dial (graduated in degrees and minutes) will position castings or parts to any angle desired—for checking measurements, or for boring or other machining operations. The rotating table to which work is fastened can be made to assume any position from vertical to horizontal, and even 30 degrees below in opposite direction.

It can be locked or be disengaged to rotate freely by hand. A 10-inch sine bar is provided for closer settings.

Send for folder giving complete information

MACHINE PRODUCTS CORPORATION
6763 E. McNichols Road • Detroit 12, Mich.

▲ Mention Item NED-6296 when writing ▲

NEW AIR-DRY COATING based on "VINYLITE*" Resins RESISTS CORROSIVE CHEMICALS

VINYLITE RESIN COATING—AFTER ONE YEAR'S exposure to extremely corrosive conditions two acid concentrator tanks are still in excellent condition. Considerable spillage of warm sulphuric acid across tank surfaces leaves coating unharmed. Primer coat contains a new VINYLITE Resin—VMCH. Finish coat is based on another mixture of VINYLITE Resins. Both primer and finish coats are air-dried.

ORDINARY COATING—AFTER ONE MONTH of same duty asphalt base coating has failed.

DEVELOPMENT OF VINYLITE Resin VMCH, a new, chemically modified vinyl chloride-acetate resin, has made it possible for protective coatings manufacturers to produce finishes of high chemical resistance that air-dry with excellent adhesion to impervious surfaces Baking is no longer necessary. For names of maintenance coatings manufacturers equipped to supply these finishes, address Department 8.

Plastics Division
CARBIDE AND CARBON CHEMICALS CORPORATION
Unit of Union Carbide and Carbon Corporation
UCC
30 EAST 42ND STREET, NEW YORK 17, N.Y.

Vinylite*
TRADE MARK
ELASTIC PLASTICS · RIGID PLASTICS
RESINS FOR ADHESIVES · RESINS FOR SURFACE COATINGS

*The word "Vinylite" is a registered trade-mark of Carbide and Carbon Chemicals Corporation, sole producers of "Vinylite" plastics.

▲ Mention Item NED-6297 when writing ▲

New Literature—Continued

SQUIRREL-CAGE MOTOR—12-page illustrated bulletin No. 1160 presents information on protected polyphase squirrel-cage motor—motor is standardized in frame sizes from 203 to 505 inclusive—issued by Fairbanks, Morse & Co., J 60, 600 S. Michigan Ave., Chicago 5, Ill.

▲ Mention Item NED-6298 when writing ▲

FLOWMETERS—8-page illustrated booklet, reprint No. 28 of article by William C. Bennett, outlines proper installation and maintenance of flowmeters—issued by Cochrane Corp., 3143 N. Seventeenth St., Philadelphia, Pa.

▲ Mention Item NED-6299 when writing ▲

TURRET LATHES—35-page illustrated catalog covers type H heavy duty turret lathes—it also contains information on fixed bed and sliding bed turret lathes and special heavy duty turret lathes—issued by International Machine Tool Corp., Libby Div., 1116 W. Twenty-first St., Indianapolis, Ind.

▲ Mention Item NED-6300 when writing ▲

pH INDICATOR—16-page illustrated catalog No. E-96 describes portable universal pH indicator which is direct reading and has glass, hydrogen and quinhydrone electrodes—has many uses in both plant and laboratory—issued by Leeds & Northrup Co., 4934 Stenton Ave., Philadelphia, Pa.

▲ Mention Item NED-6301 when writing ▲

LUBRICATION—114-page book lists types and grades of greases and oils for heavy duty equipment—contains capacities, recommendations and operating temperature for tractors, trucks, rollers, shovels, crushers and similar equipment—issued by D-A Lubricant Co., 1311 W. Twenty-ninth St., Indianapolis, Ind.

▲ Mention Item NED-6302 when writing ▲

PRODUCTION INCENTIVE—16 x 22 inch picture poster for mounting in factory or office reminds worker of great sacrifices of men serving in armed services—is intended to increase war consciousness—issued by Wagner Electric Corp., 6477 Plymouth Ave., St. Louis, Mo.

▲ Mention Item NED-6303 when writing ▲

OIL PURIFIERS—6-page illustrated folder No. YM-600 describes A and GH lines of lubricating and hydraulic oil reclaimers with capacities ranging from 2½ gallons in 70 to 90 minutes to 120 gallons in same length of time—issued by The Youngstown Miller Co., 1638 Hayes Ave., Sandusky, O.

▲ Mention Item NED-6304 when writing ▲

WOOL FELT—Illustrated booklet tells story of manufacture and uses of wool felt—particular attention is called to applications in engineering and mechanical fields as alternate for rubber, cork, plastics and other priority materials—issued by The Felt Assoc., Inc.—obtainable from Korbel & Colwell, Inc., 480 Lexington Ave., New York 17, N. Y.

▲ Mention Item NED-6305 when writing ▲

POWER TOOLS—Illustrated catalog is concerned with magazine feed power screwdrivers and motorized hopper units—photographs show typical applications and nesting fixture designs—issued by The Detroit Power Screwdriver Co., 2819 W. Fort St., Detroit 16, Mich.

▲ Mention Item NED-6306 when writing ▲

Try this Yourself---

Try to hold two pencils in perfect end-to-end alignment without touching each other while you count 10. That will show you why flexible couplings are necessary to absorb unavoidable misalignment between shafts of direct-connected machines.

Ajax rubber bushed, graphited-bronze bearings with interlocking studs provide positive, resilient drive. No backlash, no noise, no lubrication problem.

Write for facts on Ajax Flexible Couplings.

AJAX FLEXIBLE COUPLING CO.
Incorporated 1920 WESTFIELD, N. Y.
AJAX

▲ Mention Item NED-6307 when writing ▲

EFFICIENT Industrial Ovens COME ONLY FROM ENGINEERING "KNOW HOW"

Don't take chances with a "hit-or-miss" oven installation. Get the unbiased counsel and scientific planning of Kirk & Blum Engineers. Write to The Kirk & Blum Manufacturing Co., 2813 Spring Grove Ave., Cincinnati, Ohio, for Booklet "Industrial Ovens".

KIRK AND BLUM
AN ORGANIZATION OF ENGINEERS AND MECHANICS

▲ Mention Item NED-6308 when writing ▲

Protect Workers Pouring Metals!

Pulmosan NO. 40 BABBITTING MASK

The No. 40 Babbitting Mask protects eyes, face and neck of men working with hot babbitt or pouring lead joints on cast-iron; also cinder men around factory cupolas and blast furnaces. Made of sturdy black enamel steel-wire cloth, with adjustable head cap, clear wide-vision glass lenses, full leather apron over chest. Use the No. 40 Mask wherever protection is required against flying and splashing metals. Write for prices.

Also full line HOODS, MASKS and HELMETS for Dusts, Fumes Acids, Boiler Cleaners and Sandblasters *Write for details*

PULMOSAN SAFETY EQUIP. CORP.
Dept. NED
176 Johnson St. Brooklyn 1, N. Y.

▲ Mention Item NED-6309 when writing ▲

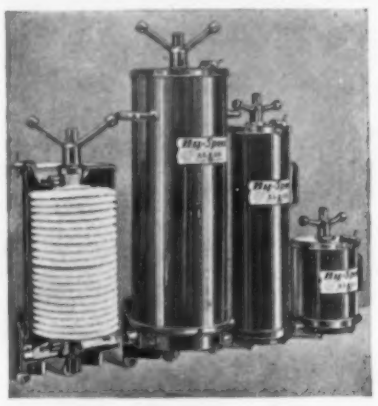
"What's the score on this Pile-Up in Dept. 20?"

Somebody miscounted in Departments 18 and 19...and so Department 20 wound up the day with a shortage of parts that clogged up final assembly, disrupted today's shipping schedule, and *tomorrow's* production schedule.

But if every production machine in the plant is equipped with a Veeder-Root Counting Device, you know, *as of the present moment*, whether the machine is operating up to scheduled capacity, or whether it is in need of adjustment, repair, or regulation of power-flow. So shortages can be prevented, and interdepartmental co-ordination can be held constantly right on the button.

VEEDER-ROOT INC., HARTFORD 2, CONN.

▲ Mention Item NED-6310 when writing ▲



ALSOP "HY-SPEED" PAK-FILTER
for all kinds of OILS

We know filters, but before offering this unique, economical oil filter, exhaustive tests in actual use were made and now we say "this is it"

It will remove all dirt, rust, moisture and impurities from Turbine, Hydraulic, Diesel, Transformer and Fuel oils. For reclaiming Machine cooling and cutting oils there is no finer filter. The filter media are discs in groups and can be thrown away when used, and a new PAK inserted quickly.

Made in all sizes in portable, stand, or pipe line connected.

Save your oils by using
PAK-FILTER
Full Information sent on request.

ALSOP ENGINEERING CORP.
29 MAIN STREET MILLDALE, CONN.

▲ Mention Item NED-6313 when writing ▲

MAKE YOUR OWN PRINTS *and* PHOTO COPIES *-and save 80%!*

VICTORAY makes blueprints, black-and-white prints, photo copies—and is a photo print dryer besides. No other unit does so much, yet costs so little to own and operate! $127.50 net price inc. lamps, F.O.B. Chi.

Make photo copies with only 1 second printing time, up to 24"x34". Blueprints or black-and-white prints in 3 minutes—at about 1c a sq. ft. No darkroom. Can be operated by any inexperienced person. Uses only 8 ordinary light bulbs. WRITE FOR CIRCULAR.

TRADE MARK REG. PATENTS PENDING
VICTORAY
VICTORAY PRODUCTS CO., 123 N. WACKER DR., CHICAGO

- PERFECT BLUEPRINTS
- BLACK-AND-WHITE PRINTS
- AUTHENTIC PHOTO COPIES
- PHOTO PRINT DRYER

▲ Mention Item NED-6314 when writing ▲

FILL OUT AND MAIL COUPON BELOW NO OBLIGATION!

SPERRY PRODUCTS, HOBOKEN, NEW JERSEY
Gentlemen: Please send me, at no cost, a copy of your Bulletin 78-D containing complete details on your EXACTOR HYDRAULIC CONTROL.
NAME ____ TITLE ____
COMPANY ____
ADDRESS ____ CITY ____ STATE ____

▲ Mention Item NED-6315 when writing ▲

New Literature—Continued

CUTTER & SURFACE FACER—4-page illustrated folder describes Clark adjustable hole cutter and surface facer—specifications and prices are listed—issued by Robert H. Clark Co., 3414 Sunset Blvd., Los Angeles 26, Calif.

▲ Mention Item NED-6316 when writing ▲

ELECTRICAL PRODUCTS—Illustrated catalog covers complete line of conduit fittings, cable terminators and grounding devices—engineering data, list prices and dimensions are included—issued by O. Z. Electrical Mfg. Co., NED, 260 Bond St., Brooklyn, N. Y.

▲ Mention Item NED-6317 when writing ▲

ABRASIVE PRODUCTS—Illustrated catalog is descriptive of Brightboy rubber cushioned abrasive products—contains short cuts in de-burring, finishing and polishing operations—issued by Brightboy Industrial Div., Weldon Roberts Rubber Co., 351 Sixth Ave., Newark 7, N. J.

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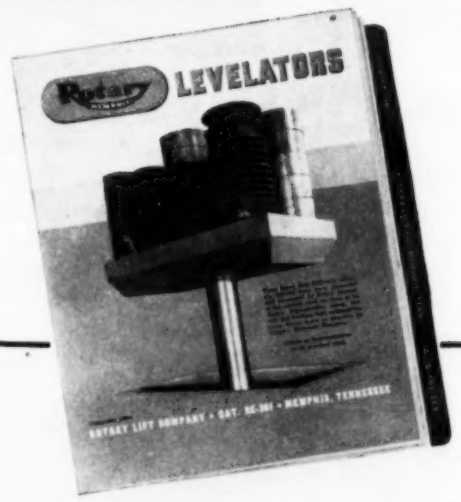

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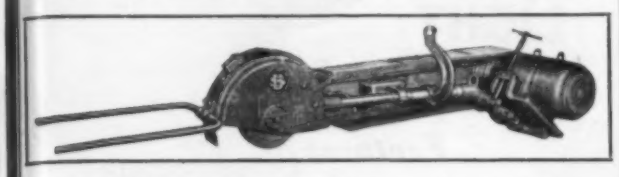

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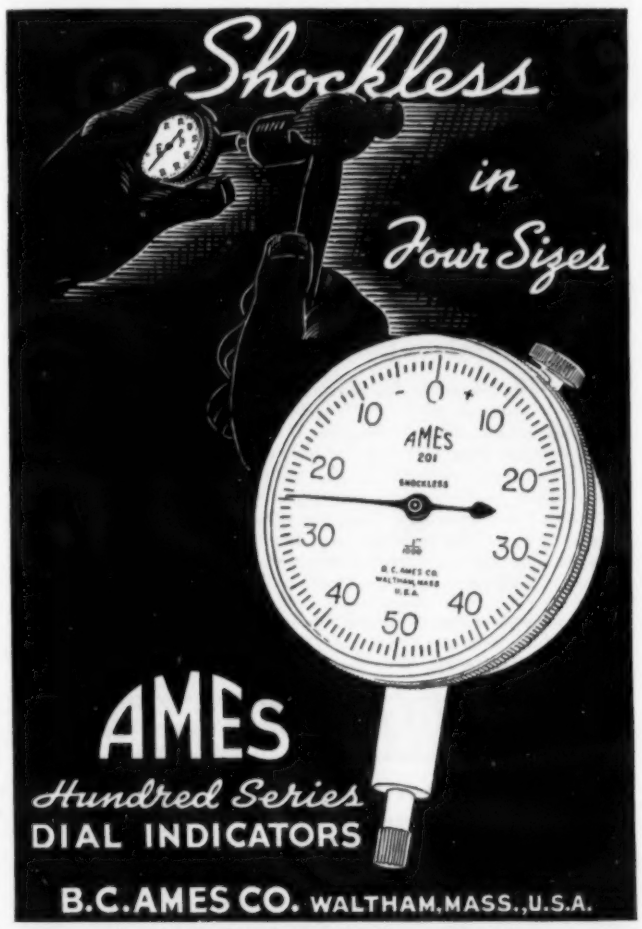

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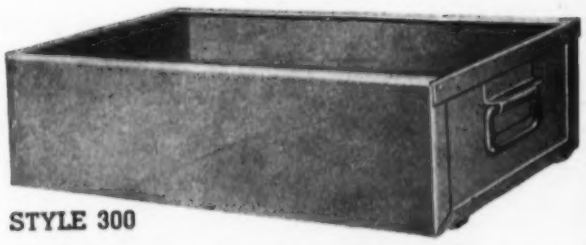

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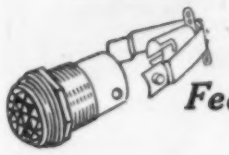

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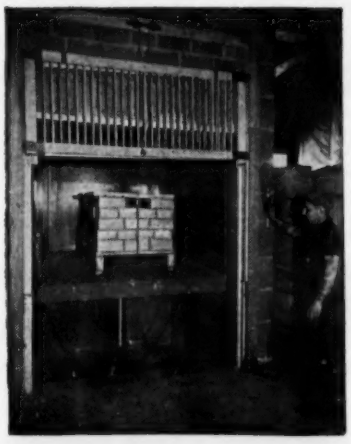

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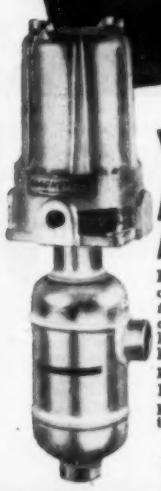

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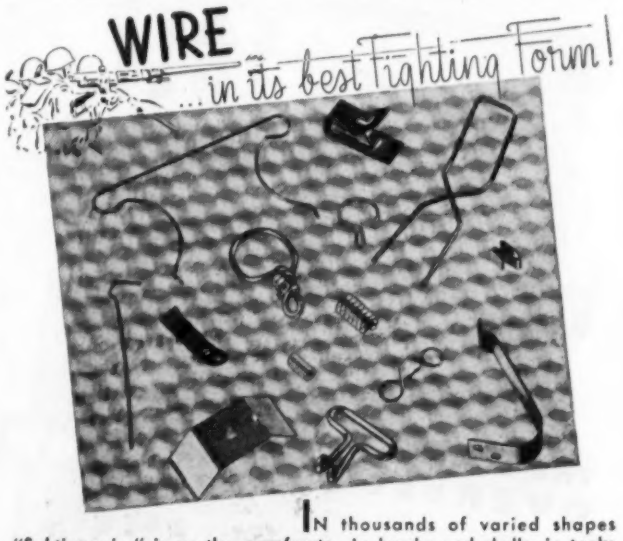
WIRE ...in its best Fighting Form!



IN thousands of varied shapes "fighting wire" is on the war fronts. In bombs and shells; in tanks and guns and planes; in equipment and war material of many types, you'll find wireforms and springs doing a thousand-and-one vital jobs!

Above, you see a few of the many Accurate-made special wire shapes which are parts of fighting implements. They're produced in huge quantities to Accurate precision standards—under rigid control from raw materials to inspected finished products.

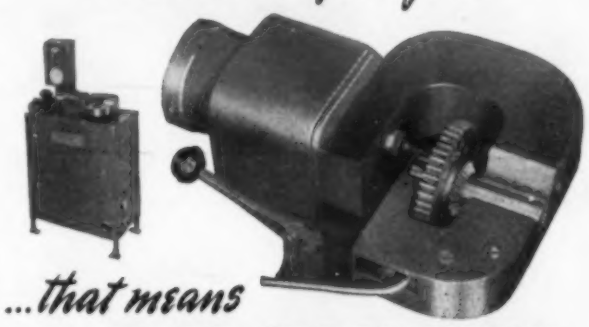
Accurate "know-how", based on experience and specialization, can help you solve your production problems that involve springs and wireforms. Tell us what you need and when you need it—it's as simple as that.

ACCURATE SPRING MFG. CO., 3805 W. Lake St., Chicago, Ill.

WHAT SPECIAL WIREFORMS DO YOU NEED? Accurate Springs

Mention Item NED-6345 when writing

Hanna *Riveting* Presses
Tailored to your job!



...*that means*
MORE PRODUCTION
with LESS TIME *and* LABOR

HANNA Riveting Presses will enable you to attain maximum riveting and upsetting production in less time, with less labor, at less cost. We invite you to call in a Hanna engineer to study your problems. There's no obligation, of course.

HANNA ENGINEERING WORKS
1765 ELSTON AVENUE • CHICAGO 22, ILLINOIS
RIVETERS • CYLINDERS • AIR HOISTS

Mention Item NED-6346 when writing

WATER LIKE THIS FIGHTS OIL FIRES SUCCESSFULLY

EVEN WHERE WATER LIKE THIS FAILS

You wouldn't play a *stream* of water on a flammable liquid fire—even *spray* is often not effective.

WaterFOG's success is due to water's cooling power being proportional to total surface exposed to heat. WaterFOG — water particles much finer than Spray — presents far more surface to the fire—and for a longer time (due to its lightness) than an equal quantity of water in any other form.

WaterFOG first quenches the flames. Then, floating over the liquid, it cools that, too, retarding further vaporization. Finally, changing into steam, it smothers the fire, cutting off flame-feeding oxygen. All without spreading or agitating the fire!

Less water is needed, saving water damage. "Flash-back" is prevented. And WaterFOG is safe on electrical fires. Write today for Bulletin 123.

Rockwood's SG-40 Nozzle projects high-velocity WaterFOG or a solid stream. With an extension applicator inserted in place of the FOG Tip it discharges low-velocity WaterFOG in a ball shape.

WaterFOG is created by impinging streams from specially-designed Rockwood nozzles — engineered in correct particle size, fog pattern, and velocity for your conditions. Fixed piping installations, hose nozzles and applicators. Rockwood installations approved by Underwriters' Laboratories and Associated Factory Mutuals; used by Navy, Coast Guard, hundreds of industrial plants. EXECUTIVES! colored movie (16 mm.) showing tests of Rockwood WaterFOG, is available.

ROCKWOOD SPRINKLER CO., 44 Harlow St., Worcester, Mass.
Specialists in Fire Protection Engineering, Equipment and Installation since 1907

ROCKWOOD WaterFOG

Water Engineered by Rockwood Cools. Confines. Smothers Oil Fires

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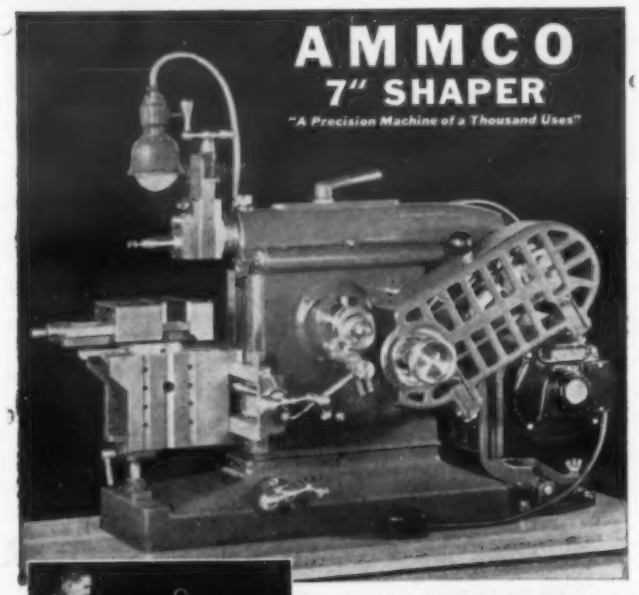

IT'S PORTABLE

--Saves Steps and Time--

Don't tie up a big shaper when so many jobs can be done just as accurately and much quicker and more economically on the AMMCO 7" PRECISION SHAPER.

Available for stationary installation or mounted on portable cabinet easily rolled to the mechanic's workbench ... Write today for specifications and prices.

AUTOMOTIVE MAINTENANCE MACHINERY CO.
2110 Commonwealth Avenue North Chicago, Ill.

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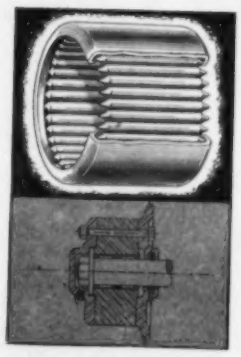
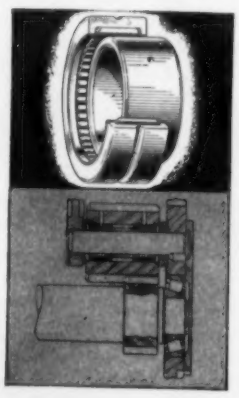
NEEDLE BEARINGS
All Types—All Sizes

NEEDLE BEARINGS TYPE DC



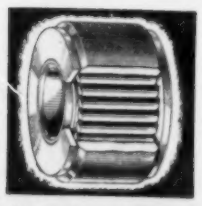
In the foundry for such applications as industrial wheels, the Type DC Torrington Needle Bearing is unusually adapted on account of its high load carrying capacity and compactness. It is a self-contained anti-friction unit of minimum size that can be easily and quickly installed. With its small diameter the Type DC fits readily in place of the ordinary bushing, and offers the further advantage of low cost. Write our Torrington plant for Catalog 106.

NEEDLE BEARINGS TYPE NCS



Wherever high load capacity is a first consideration, the heavier Type NCS Needle Bearing may be required. Not only does it contribute to operating efficiency, but its unit construction facilitates assembly. With a full complement of rollers, the Type NCS offers many advantages—low coefficient of friction, long service life and infrequent maintenance, in addition to high load capacity. Its relatively heavy hardened outer race makes it adaptable to heavier load requirements. Write our South Bend plant for Bulletin V-106.

NEEDLE BEARINGS TYPE AT



The Type AT Needle Bearing is particularly adaptable for aircraft applications in conjunction with standard AN bolts. It is built with heavy through-hardened outer race designed to give the maximum capacity obtainable from the rollers used. A permanently attached inner race is provided so that the entire bearing forms a single compact unit. Write our Torrington plant for information on this and other special types. In the complete line of Needle Bearings offered by The Torrington Company, the user should find the type and size that best suits his particular problem.

THE TORRINGTON COMPANY
Established 1866
TORRINGTON, CONN. SOUTH BEND, IND.
Makers of Needle Bearings and Needle Bearing Rollers
New York Boston Philadelphia Detroit
Cleveland Seattle Chicago San Francisco
Los Angeles Toronto London, England

TORRINGTON NEEDLE BEARING
Every feature fills a wartime need

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SAVE FUEL

A tight-closing, easy-operating door . . . replacing creaky, leaky, hard-to-handle types . . . will pay for itself in lowered heating costs on almost any type of commercial or industrial building.

THE BARCOL OVERDOOR

was used to conserve heat and improve operating efficiency at this city traction bus garage entrance...on the record of three preceding installations...and in spite of a tough overhead trolley wire problem *(solved by Barcol engineers)*.

BARBER-COLMAN COMPANY
108 MILL ST. • ROCKFORD • ILLINOIS

▲ Mention Item NED-6351 when writing ▲

AIR, TOO, MUST WORK FOR VICTORY
KEEP IT MOVING WITH
***Peerless* VENTILATING SETS**

★ Mess halls, army barracks, war service buildings and industrial plants require the movement of air for ventilating, cooling, heating or complete air conditioning.

These situations demand ventilating fans that not only measure up to capacities rated on the test floor, but which will also deliver the rated air volumes under practical operating conditions. Peerless Utility Ventilating sets are just such units.

BELT AND DIRECT DRIVE TYPES

Peerless Ventilating Sets are supplied in 26 belt-driven sizes and 12 direct-connected sizes. Belt-driven units are powered with from ½ to 7½ horsepower motors. Direct-driven units have ½ to 2 horsepower motors. Belt drive units are also furnished with variable pitch motor sheaves for speed adjustment.

All units can be supplied with or without weatherproof hood covers for drive mechanism.

Write for Bulletin SDA-91, which gives complete dimensions and ratings of Peerless Utility Blowers.

THE PEERLESS ELECTRIC CO.
WARREN, OHIO
FIFTIETH ANNIVERSARY
FROM Pearl Harbor TO VICTORY

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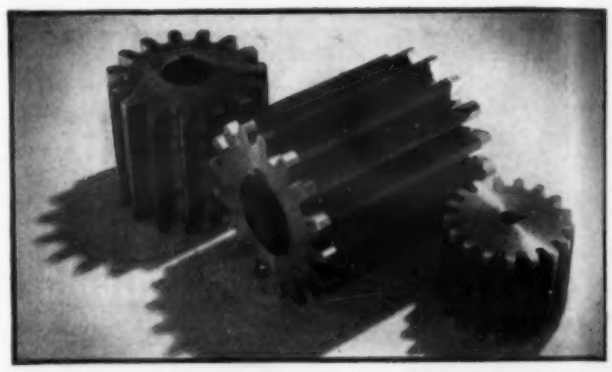

G-E FABROIL GEARS

If you require quiet operation, strength, wearing qualities, low friction losses, and resistance to chemical action and corrosion in your gear drive, G-E Fabroil gears are your answer. They resist oils, greases, gasoline and solvents—increase machine speeds—are stable under all operating conditions including changes in temperature and humidity—have high resiliency resulting in low impact and acceleration load stresses and reduction of shock and strain on equipment.

For details, write Section J-11, General Electric Company, 1 Plastics Avenue, Pittsfield, Mass.

GENERAL ELECTRIC
PD-51

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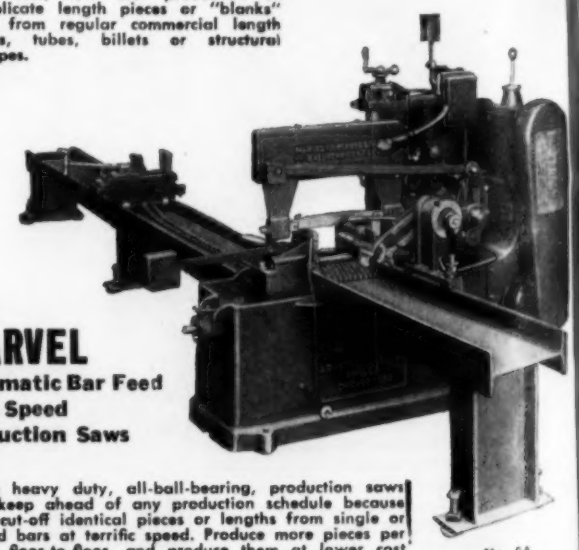
FOR fast, low cost production of duplicate length pieces or "blanks" cut from regular commercial length bars, tubes, billets or structural shapes.



MARVEL
Automatic Bar Feed
High Speed
Production Saws

These heavy duty, all-ball-bearing, production saws will keep ahead of any production schedule because they cut-off identical pieces or lengths from single or nested bars at terrific speed. Produce more pieces per hour, floor-to-floor, and produce them at lower cost than any other accurate cutting-off machine. Require no more operator attention than an automatic crew machine—feed, measure and cut-off automatically. Efficiently cut a wide variety of metals and alloys of almost any shape, size or machinable degree of hardness. Are the outstanding universal cutting-off machines, for production runs can be interrupted at any point, a miscellaneous cut made and automatic operation resumed by re-engaging the bar feed.

No. 6A
Capacity 6" x 6"
No. 9A
Capacity 10" x 10"

ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago, U. S. A.
Eastern Sales Office: 225 Lafayette St., New York.

HIGH-SPEED-EDGE MARVEL

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remember Fairfield... For FINE GEARS

MADE TO ORDER FOR MANUFACTURERS OF:
Trucks—Tractors
Construction Eqpt.
Mining Machinery
Machine Tools
Industrial Machines
Agricultural Eqpt.
Marine Machinery
Aviation Machinery
and others

TYPE	APP. DIAMETER
Straight Bevel	1½" to 22"
Spiral Bevel	1½" to 28"
Hypoid	1½" to 16"
Spur	1½" to 28"
Herringbone	1½" to 15"
Worm Gears	up to 20"
Worms	up to 4½"

COMPLETE FACILITIES

ARMY E NAVY

FAIRFIELD MANUFACTURING CO.
317 S. Earl Avenue • Lafayette, Ind.

FAIRFIELD For FINE GEARS

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10% is too much penalty to pay on old pumps!

F-M Fig. 5813 double-suction, motor-driven Centrifugal Pump. Both pump and motor covered as a unit, by one warranty—that of Fairbanks-Morse.

SURE, 10 per cent is too much—and more than 10 per cent is worse! But you *may* be paying a power cost penalty of 10 per cent or more on the operation of old pumps, even if they are as good as the day they were installed. Due to improved mechanical and hydraulic efficiency certain F-M Pumps of today's manufacture cost so much less to operate than older models that it does not pay to retain the old ones.

Use your priority to conserve power needed for increased war production now—and buy today with an eye on tomorrow's profits. Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago. Branches with service stations throughout the United States and Canada.

FAIRBANKS-MORSE
DIESEL ENGINES · PUMPS · MOTORS · GENERATORS · WATER SYSTEMS · SCALES · STOKERS · FARM EQUIPMENT · RAILROAD EQUIPMENT
Pumps

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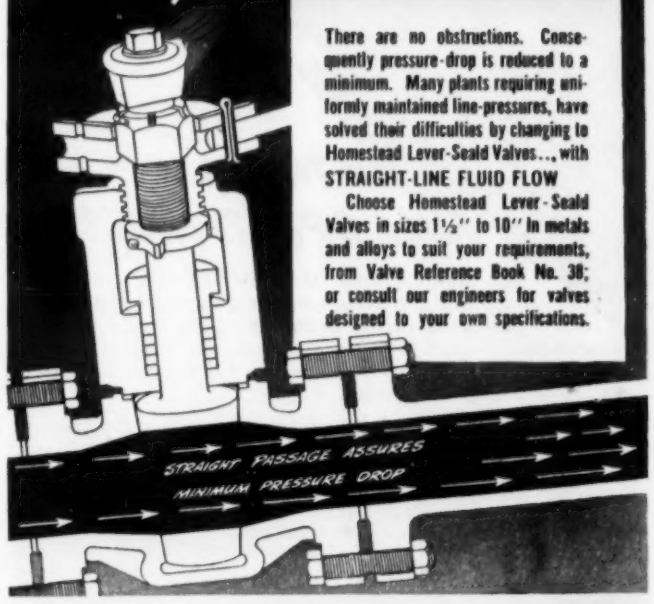

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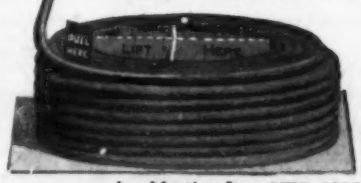

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